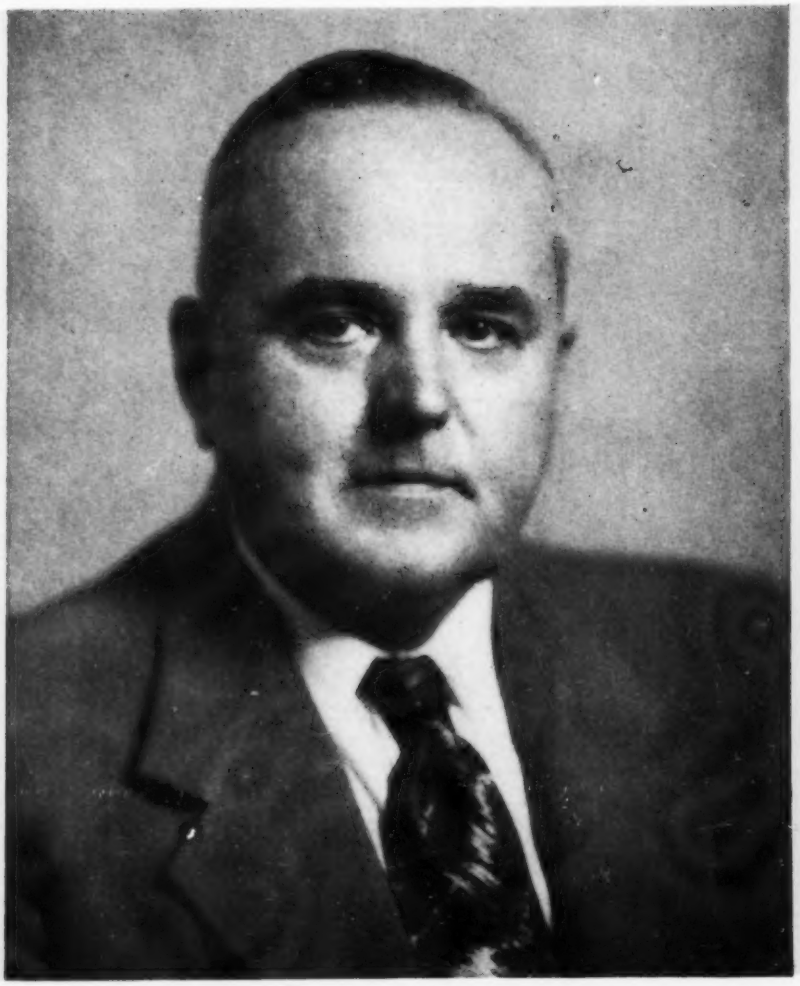
SOAP

and SANITARY CHEMICALS



In this issue...

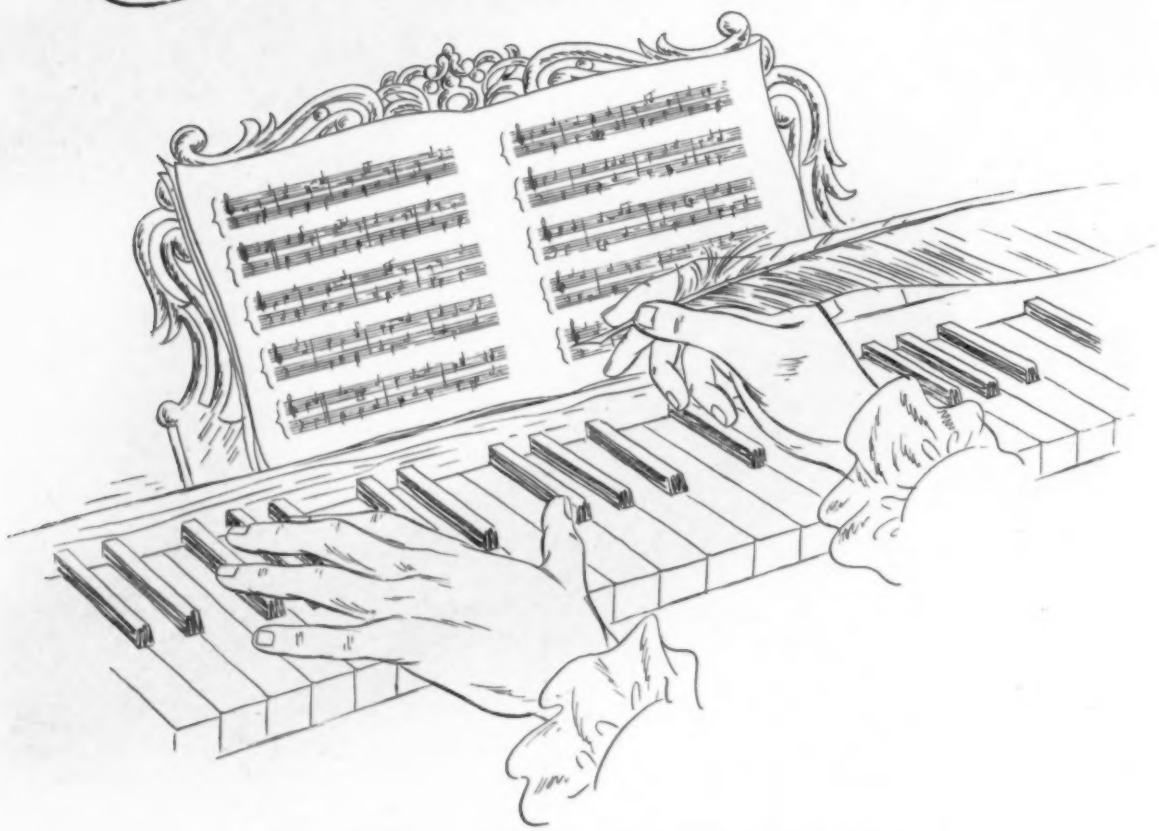
Cover photo . . . Dr. W. G. Reed, Chief, Insecticide Division, Livestock Branch, Production and Marketing Administration, U.S.D.A., who discusses Federal Insecticide, Rodenticide and Fungicide Act at 38th annual meeting, Chemical Specialties Manufacturers Assn. in Washington, Dec. 3-4 (See page 175.)

DECEMBER 1951

1-5

Creative Perfumery

sells your products



Creative Perfumery is the art and science of producing the correct, the perfect fragrance for any given product. More . . . **Creative Perfumery** is the dynamics of Fragrance applied to modern merchandising for easier selling . . . for more satisfied customers. With original notes, subtle compositions and imaginative harmonies **D&O Creative Perfumery** can become a compelling and successful factor in your Sales picture. Consult D&O

DODGE & OLCOTT, INC.
180 Varick Street • New York 14, N. Y.

ATLANTA • BOSTON • CHICAGO • CINCINNATI • DALLAS • LOS ANGELES • PHILADELPHIA • ST LOUIS • SAN FRANCISCO

ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • VANILLA • FLAVOR BASES

Another NEW

steady stream of repeat sales with Fuld Brothers' Exclusive

Vitozone* WAFER ELECTRIC DEODORIZER

This handsome Vitozone Wafer Electric Deodorizer Cabinet, is available in Chrome or Ivory with Chrome trim.

*Reg. U. S. Pat. Off.

An exclusive Fuld development with dramatic sales appeal! The VITOZONE* WAFER ELECTRIC DEODORIZER is not a gadget. It is a scientifically developed deodorizer, giving you a controlled lasting aroma that maintains an even effective strength over a long period of time.

No Sharp Backnote

The cermoplast wafers do not evaporate like a deodorant block. Only the perfume evaporates without leaving a sharp backnote because the VITOZONE wafer contains no para or similar materials.

An electrically driven fan keeps a steady stream of air passing over the VITOZONE wafers to effectively permeate the air in *large or small areas.*

The fragrance of one wafer will last 3 to 4 weeks in continuous operation. If operated intermittently, the fragrance will last longer. For large areas, use two wafers.

You Can Blend Aromas

The Fuld Cermoplast Wafer Method means you can blend odors, too. These wafers are available in 4 different fragrances. Your customers can now blend two aromas to cover different problems.

It's quick and easy to service! Just place the wafers on the spindle. Close the tamperproof dispenser. That's all! No liquids. No messy oils to run down walls. You eliminate waste, save time.

This is the Fuld Secret

The Fuld Brothers exclusive process of impregnating the VITOZONE wafer results in CONTROLLED EVAPORATION. *Only the aromatic evaporates!* The cermoplast wafer remains.

Profit from this Fuld advancement in deodorizing technique. Convert it into a steady stream of repeat sales and priceless customer satisfaction.

VITOZONE CERMOPLAST WAFERS are available in choice of odors: SPICE, BOUQUET, SURF & APPLE BLOSSOM.

Now, for detailed information, prices and samples, please wire, write or call Fuld Brothers, Inc., Baltimore 31, Maryland.

FULD BROTHERS, INCORPORATED

MANUFACTURING CHEMISTS

Warehouses in Principal Cities

CONSISTENT QUALITY FOR OVER A QUARTER CENTURY

702-710 S. WOLFE ST., BALTIMORE 31, MD.

West Coast Plant: Los Angeles, Calif.

A GUIDE

TO WAX PRODUCTS PURCHASING FOR PRIVATE BRAND RESALE

An honest appraisal of floor wax products as we see it is offered to guide wax buyers who want the best quality money can buy...

SELF POLISHING WAXES

Candy's Supreme (standard)
Candy's DeLuxe
Bright Beauty (standard)
Candy's No. 640
Candy's Supreme Special WR
CAND-DOX #CS
CAND-DOX #BB

Seven floor waxes that *are* all-around top quality for any given traffic condition. Each imparts the finest protection and beauty to floors for which they are best suited.

Bright Beauty FLOOR CLEANER

An outstanding material for removing even the heaviest wax film and dirt.... Brings neglected floors "back to normal." The *right* cleaning agent to insure the most efficient floor maintenance.

Bright Beauty CREAM FURNITURE POLISH

A cream furniture polish that spreads easily, polishes without excessive effort and imparts a deep impressive lustre. Too, it permits *repeated repolishing* with a dry cloth saving reapplication time and again; truly a very economical polish of very highest quality.

Bright Beauty PASTE WAX

A paste wax that is properly blended and refined from excellent quality solids and solvents that produce the best drying time and thorough evaporation. A wax that is easy to handle, having "creamy" consistency and stability throughout its stocking and usage period.

Bright Beauty LIQUID (spirit) PREPARED WAXES

Complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each its own "Dry Cleaner," they keep a surface waxed with a superb protective coating necessary to many difficult surfaces such as certain floors (where adaptable), bars, wallpaper, etc.

Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH

As a Glass Cleaner (pink color) it applies evenly with little effort, wipes off easily with negligible "powdering" and produces an undeniable "feel" of cleanness to glass that is actually true in fact. Different in color only as Silver polish, it imparts a highly desirable lustre to all silver *without* abrasion and can even correct the abuses of scratchy, "quick-polish" inferior products.

Bright Beauty DANCE FLOOR WAX

Basic advantages are freedom from "balling up," thus does not gather dirt and impregnate the floor with hard spots difficult to remove...also is free from dusty effects. Adds the protective quality to expensive ballroom floors that means more "floor-years" to users everywhere.

Bright Beauty Heavy Duty PASTE CLEANER

Really *cleans* and *scours* more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive quality, it frees almost every surface from all forms of foreign matter to perfection.

1. BEAUTY AND DURABILITY

should be considered together. Initial appearance is important, but for a waxed surface to remain beautiful it must be durable. Durability depends not only on resistance to the abrasion of traffic, but even more so on resistance to the collection of dirt and to discoloring traffic marks. Durability is really measured by how long the waxed surface maintains a nice appearance before the necessity of complete removal and re-waxing.

2. ANTI SLIP

qualities are necessary in a good wax as a matter of safety underfoot. This important quality does not necessarily require the sacrifice of beauty and protection which are the foremost original reasons for the use of a wax. Look for the proper balance—a wax film which is not excessively slippery yet which is not tacky and does not excessively collect dirt.

3. WATER RESISTANCE

is important, particularly when considering the possibility of wet traffic and the necessity for frequent damp mopping for the purpose of removing surface dirt. Overdoing this quality means greater difficulty in applying multiple coats of wax and may seriously increase the difficulty in removal when complete cleaning and re-waxing is necessary. Water resistance is important, but so is the quality of removability.

4. SOLID CONTENT

when expressed in percentage is not nearly as important as the *quality* of the solid content. When considering good quality, 12% of solids answers most needs for good planned maintenance programs. Two applications of 12% will give better results than one of 18%. However, the more concentrated material is useful for some programs of maintenance and particularly on "washed-out" floors, etc. Over-waxing should be avoided so that periodic complete removal will not be too difficult.

5. CARNAUBA WAX

is still the most important basic ingredient in our floor waxes. When refined and compounded with other important ingredients and "KNOW HOW," it aids materially in producing the most important features of a good floor wax...ALL AROUND QUALITY OF PERFORMANCE.

● ALL AVAILABLE FOR PRIVATE BRAND ONLY
We do not compete with our jobbers for consumer sales. We sell only to distributors, except for experimental accounts in Chicago essential to research.

Wax Specialists for over 60 years

Candy & Company, Inc.

2515 W. 35th ST., CHICAGO

SOAP and SANITARY CHEMICALS

Volume XXVII
Number 12
December 1951

CONTENTS

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MONSANTO
CHEMICALS — PLASTICS

INFORMATION FOR COMPOUNDERS

These pages are published to bring you information on Monsanto products serving your industry. Here, you may find suggestions and data that will point the way to new or improved products and increased sales. Additional information on any product or application will be sent at your request.

SANTOMERSE No. 1...easy-to-blend detergent for use in versatile compounds

Granular Santomerse No. 1 is produced especially to give makers of cleaning compounds a detergent that blends perfectly with other ingredients, has less tendency to stratify and cannot be identified by visual inspection. The photo at the left is of pure Santomerse No. 1. At the right, you see a compound of 40% granular Santomerse No. 1, 40% Monsanto sodium tripolyphosphate and 20% soda ash. Can you see any difference?

Because of its versatility in form and performance, Monsanto Santomerse No. 1 is the keystone of many compounds designed for detergency, penetration, dispersion, emulsification and spreading. It is an all-purpose detergent that efficiently serves numerous ways in industry, agriculture and homemaking.

Santomerse No. 1 is an anionic detergent with a minimum of 40% active alkyl aryl sulfonate, the remainder principally being neutral inorganic builders. This is the combination that is best for high efficiency and economy. It is compatible with other detergents and with builders. Since it is free-flowing, it is easy to compound into mechanical mixtures of uniform quality with almost any kind of blending equipment.

Santomerse No. 1 is effective in hard or soft water, in acid or alkaline baths, in hot or cold solutions. It prevents the formation of insoluble curds in hard water.

Santomerse No. 1 can be used in applications where pH is important. It does not affect the pH to any marked degree, but usually assumes the pH of the solution in which it is used.

Properties of Santomerse No. 1

Chemical nature—Alkyl aryl sulfonate.
Available forms—Flake, granular, beads, powder.
Color, dry—Light buff to white.
Color, 1% solution—Clear, essentially colorless.
Odor, dry—Very slightly aromatic.
Odor, solution—None.
Active content—40%.
Ash content—68%.
Alcohol insoluble—60%.
pH value—(1% solution in distilled water @ 25° C.) —7.5 to 8.5.
Approximate apparent density — Light-density flake, 0.36-0.42 gms/cc.; heavy-density flake, 0.48-0.55 gms/cc.; granular, 0.55-0.60 gms/cc.; spray-dried (in drums), 0.09-0.10 gms/cc.; spray-dried (in bags), 0.10-0.15 gms/cc.

Santomerse No. 1 is warehoused in 13 cities throughout the United States and your orders will be filled promptly from the point nearest to you.

If you want technical assistance in formulating compounds for specific applications of detergents or wetting agents, contact the nearest Monsanto Sales Office. Mail the coupon for a free copy of the Monsanto booklet, "Santomerse No. 1 All-purpose wetting agent and detergent."

These uses may suggest ways SANTOMERSE No. 1 can serve you

Agricultural Sprays
Used as a wetting and dispersing agent, Santomerse No. 1 increases the effectiveness of the spray.

Dairy Cleaners
Santomerse No. 1 adds to the efficiency of acid, neutral and alkaline dairy cleaners.

Railroad Car Cleaners
Santomerse No. 1 improves the detergency of acid-type cleaners to remove scale and road grime.

Dehairing Hogs
Santomerse No. 1 in the scalding vat speeds up the removal of hair and scurf.

Household Cleaners
Santomerse No. 1 formulations make excellent cleaners for home laundering, dishwashing, floor and woodwork cleaning and in numerous other cleaning jobs.

Metal Industry
Santomerse No. 1 in the acid bath for cleaning, treating or pickling metal improves operations and the quality of the work.

SANTOMERSE 80, new detergent, reduces bulking

Monsanto's new Santomerse 80 is an alkyl aryl sulfonate in concentrated form. It packs extra efficiency in small bulk to bring savings in containers, storage and handling. In addition, Santomerse 80 offers greater flexibility in formulations.

Santomerse 80 is identical with Monsanto's widely used Santomerse No. 1 except in the amount of active ingredient. Santomerse No. 1 has a minimum of 40% active alkyl aryl sulfonate. Santomerse 80 has double that percentage of alkyl aryl sulfonate, the remaining 20% being principally neutral inorganic builders.

In general, Santomerse 80 can be used in the same applications as Santomerse No. 1 in formulations, except for the proportions. Santomerse 80 is available in flake form and can be mixed mechanically on most blending machines. It blends easily with phosphates, carbonates and silicates.

For information on Santomerse 80 or for technical assistance in formulating cleaning compounds, contact the nearest Monsanto Sales Office or write Monsanto Chemical Company, Phosphate Division, St. Louis 4, Missouri.

MONSANTO DETERGENTS penetrants, wetting agents

Anionic	Nonionic
Santomerse* No. 1	Sterox* CD
Santomerse 80	Sterox SE
Santomerse S	Sterox SK
Santomerse 30X	Sterox No. 5
Santomerse No. 3	Sterox No. 6
Santomerse No. 3 Paste	
Santomerse D	

Technical assistance available to compounders

If you have a problem of developing a compound with specific qualities, you may have the counsel of Monsanto technical men. This service costs you nothing . . . puts you under no obligation.

For details on Monsanto's technical service, contact the nearest Monsanto sales office listed above the "M" in the right-hand column of this page.

Dust in dry detergent compounds is controlled by the addition of a small amount of Sterox CD.

Sudsing is controlled by Sterox CD, a 100%-active detergent, surface-active agent and emulsifier.

STEROX CD, high in detergency value, controls dust and suds

Sterox CD, 100%-active detergent, controls both dust and suds. That makes it especially valuable in the formulation of compounds for automatic laundries or for dishwashing machines. For products designed for uses where dust is objectionable or excessive foam hampers operations, Sterox CD is a real asset to compounders.

Sterox CD is a 100%-active nonionic. It is a liquid that blends readily with soap, carbonates, silicates, phosphates and all synthetic detergents. Its performance is efficient in hot or cold solutions . . . in hard or soft water.

This Monsanto product is compatible with cationic-type detergents and with anionic synthetics and soaps. A few of the many applications in which Sterox CD serves efficiently are: Commercial and home laundry compounds, dishwashing compounds, metal cleaning and treating, paint and wall cleaners, textile processing, paste cleaners, barrier creams, detergents for sanitation, floor cleaners, liquid detergents and in the preparation of non-dusting, non-sudsing detergents.

PHYSICAL AND CHEMICAL DATA ON STEROX CD (typical values)

Composition.....Polyoxyethylene ester
Appearance.....Pale-yellow to light-amber liquid
Odor.....Mild fatty odor
Sp. Gr. at 25° C.....1.060
Viscosity
Saybolt Furol Seconds:
at 70° F.....250
at 100° F.....100
at 210° F.....20
Pour Point.....50° F.
Flash Point.....518° F.
Hydroscopicity.....Slightly hygroscopic

SOLUBILITY

Miscible in acetone, benzene, carbon tetrachloride, ethanol, xylene.

Partially Soluble in ether (ethyl), gasoline, kerosene, methanol, mineral spirits.

Mail the coupon for Monsanto Technical Bulletin P-129 and get full details about Sterox CD.

• • • • • • • •

MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second St., St. Louis 4, Missouri. District Sales Offices: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

*Reg. U. S. Pat. Off.

MONSANTO CHEMICALS AND PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND

Mail coupon for FREE literature on detergents

☐ Booklet — "Santomerse No. 1 All-purpose wetting agent and detergent."

☐ Technical Bulletin P-123 —Describing Santomerse D, Santomerse S, Santomerse No. 3 and Santomerse No. 3 Paste.

☐ Technical Bulletin P-129 —Describing the properties and uses of Sterox CD.

☐ Technical Bulletin P-133 —Describing Sterox SE and Sterox SK.

☐ Technical Bulletin P-136 —Describing Sterox No. 5 and Sterox No. 6.

☐ Technical Bulletin P-122 — Describing Detergent MXP.

☐ Technical Bulletin P-142 —Describing Emulsifiers H, L, M and R.

☐ Technical Bulletin P-146 —Covering the use of Santomerse S for metal processing in acid media

MONSANTO CHEMICAL COMPANY, Phosphate Division
1700 South Second Street, St. Louis 4, Missouri

Please send, free and without obligation, the literature checked at the left.

Name.....*Title*.....

Company.....

Street.....

City.....*Zone*.....*State*.....

Smartly styled Duraglas stock bottle E-1596 is ideal for liquid starch. Attractive label and closure combination gives your brand sales impact.

Brisker sales with a CRISPER package

Give your product a helping hand at the point of sale by styling your package to attract customer attention. You can do it, and still keep within commercial limits on container costs.

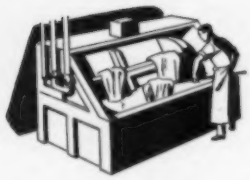
Owens-Illinois has more than 1400 different sizes and styles of stock-mold Duraglas bottles to choose from. And you'd never guess they're stock items once we add a smart closure in the right color and set them off with eye-stopping labels.

No matter what the market conditions may be, it doesn't pay to let your package get out of the *habit* of selling.

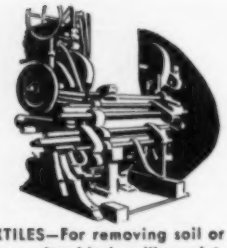
Duraglas bottles are protectors of quality

OWENS-ILLINOIS GLASS COMPANY • TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

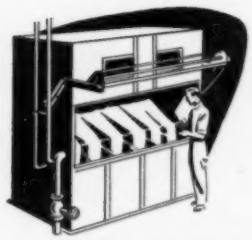
If you need OXALIC ACID



LEATHER & FURS—Vegetable tanning of sole and upper leathers; also bleaching of furs

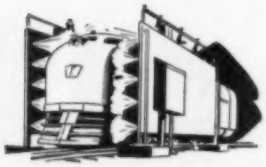


TEXTILES—For removing soil or smears after black aniline printing; in development of color when printing; for removing rust stains



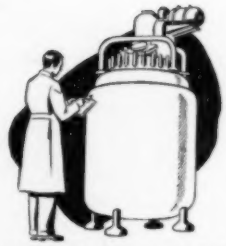
DYES—In manufacture of dyes

for these or other uses...



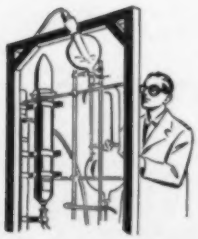
CLEANERS—For cleaning rust from railroad cars and buses; also as an auto radiator cleaner

PENTAERYTHRITOL — In manufacture of pentaerythritol, used in making surface coating resins and explosives

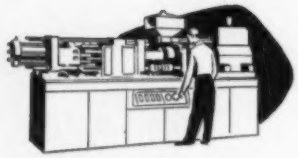


CHEMICALS—For manufacturing oxalates and other chemicals

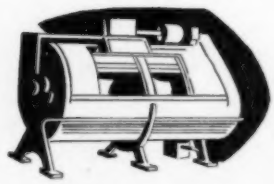
Call on GENERAL CHEMICAL



DRUGS—For manufacturing pharmaceuticals, antibiotics



PLASTICS—As a polymerization catalyst or decoloring agent



LAUNDRIES — For laundry sours and rust removers

BASIC CHEMICALS

GC

FOR AMERICAN INDUSTRY

Wherever it is used, General Chemical Oxalic Acid is known for its purity and for the uniformity of its crystal size. It is readily available from the Company's coast-to-coast chain of distributing stations.

So, remember—wherever you need Oxalic Acid . . . for whatever purposes . . . call on General Chemical!

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

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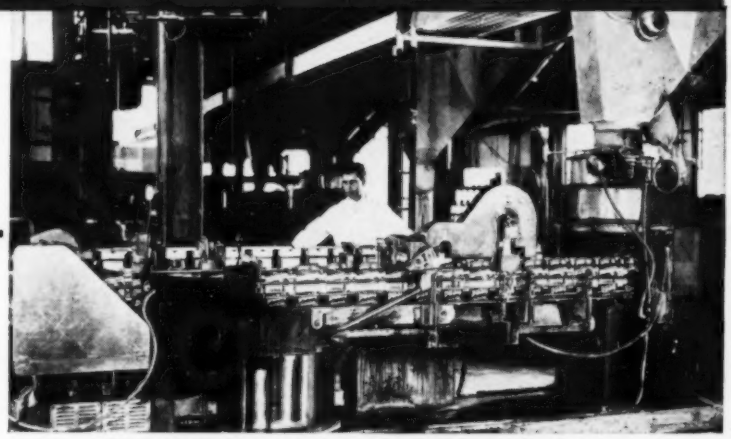
S&S

-NEVERSTOP MACHINES-

The Choice For Leading Brands



Model 601A High Speed Neverstop Carton Filling and Sealing Machine

These machines feed the cartons from a supply, bottom seal, fill and top seal—*entirely automatic.*
Speeds up to 250 and more, per minute.
Tons of products, soap and cleaning powders, detergents, food and grocery products, etc., are packaged every day on S & S High Speed Neverstop Machines.
Let us show you how S & S equipment can cut your packaging costs.

Filling—Packaging—Wrapping Machines ● *"Speeds to Suit Your Needs"*

fmc

STOKE S&S SMITH Co

PACKAGING MACHINERY **PAPER BOX MACHINERY**

Subsidiary of Food Machinery and Chemical Corporation

4915 Summerdale Ave., Philadelphia 24, U. S. A.

Exclusive West Coast Distributor:

Anderson-Barngrover Division of FMC

San Jose 5, California

General Mills Says:

ALIPHAT 45-A

★ *LOWER COST*

★ *EASIER HANDLING*

★ *INCREASED PRODUCTION*

Here is a new opportunity to save money on rosin. General Mills introduces Aliphat 45-A for the first time. It is a new grade of distilled tall oil rosin having a dry solid texture similar to fudge candy. Packaged in unlined fiber drums, Aliphat 45-A lends itself to easier and speedier handling. Thus, besides the savings in sale price, you can count on sizable savings up to 1.5 cents a pound as a result of lower labor costs and increased kettle production.

Aliphat 45-A is an economical source of rosin for the production of fine quality rosin ester varnishes and enamels whose drying properties are enhanced by the presence of approximately 22% linoleic acids. Excellent gloss oil also can be produced from it. Aliphat 45-A is a splendid source of rosin for the production of liquid, jell, flake and bar soaps. Order a drum today for plant tests and see for yourself the outstanding advantages which Aliphat 45-A offers.

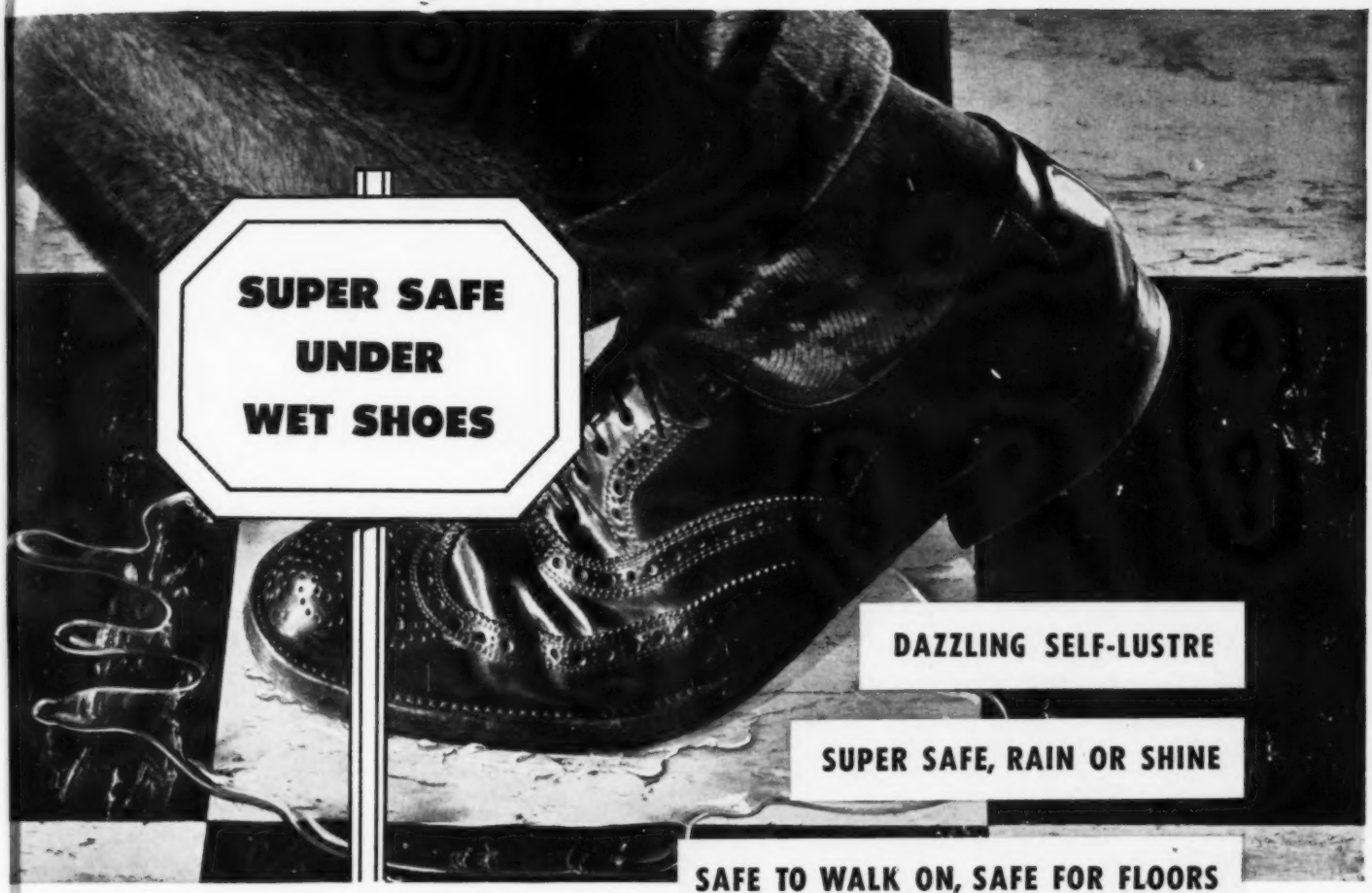
	Guaranteed Specifications	*Typical Analysis*
Color (Gardner 1933)	**12 max.**	**9**
Color (U. S. Rosin)	**—**	**WW-WG**
Rosin Acids	**67-74%**	**70%**
Fatty Acids	**—**	**25%**
Unsaponifiables	**6.0% max.**	**5%**
Acid Value	**175-185**	**180**

General Mills, Inc.

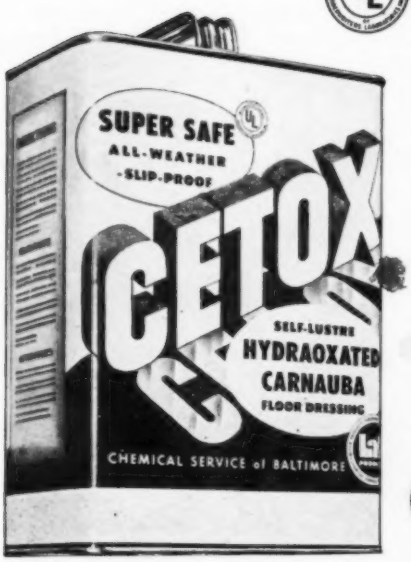
CHEMICAL DIVISION

400 Second Ave. So., Minneapolis 1, Minn.

WRITE FOR SAMPLES AND LITERATURE TODAY



CETOX the Hydraoxated carnauba floor dressing that's extra safe all year 'round!



CETOX makes all floors super safe —especially throughout year's 30% inclement weather when the risk of slips and falls is greatest.

Super safe—even under wet shoes

Normally, water underfoot acts as a lubricant. CETOX is extra safe under spilled or tracked in water. You simply won't slip, because CETOX contains Carnauba with the slip hydraoxated out of it. No silicas, or abrasives added. *It's hydraoxated super safe!*

Beautiful and safe

Self lustre CETOX makes floors dazzling bright. It is a wet mop proof, tough wearing, dirt resisting, protective floor dressing that may readily be removed with the use of a mild detergent. In every way, CETOX is superior. For safety sake . . . put CETOX on your floors.

Listed by UNDERWRITERS' LABORATORIES, INC. as anti-slip floor treatment material.

Tested-approved by YORK RESEARCH CORPORATION for American Hotel Association.

Write for complete information and sample. Do it today!

Chemical Service of Baltimore

HOWARD & WEST STREETS • BALTIMORE 30, MARYLAND

MEMBER OF NATIONAL SAFETY COUNCIL.

DREW
LAURIC ACIDS

AAB. 85%—90% LAURIC ACID
FRACTIONATED—DISTILLED

AAB is a Lauric Acid of extremely high *practical* purity. It is both fractionated and distilled in order to provide higher concentration, better composition, and superior color and odor characteristics. It has very low iodine value and its color is stable at high temperatures.

AAB is ideal for detergents, wetting agents, insecticides, and soap products requiring a high degree of lauric acids. Pure metallic soaps of AAB acid are widely used in the cosmetic and drug industries.

ABL. 70% LAURIC ACID
FRACTIONATED—DISTILLED

ABL is an exceptional value in Lauric Acids wherever concentrations up to 70% can be satisfactorily used. It is fractionated and distilled to assure concentration of 70% lauric acids, and stabilized to safeguard color on prolonged heating.

ABL is widely used in high grade cosmetic preparations, metallic soaps, shampoos, shaving creams, wetting agents, household detergents, 40% Liquid soaps, and in paste and other types of soap.

TYPICAL AVERAGE COMPOSITION AND DATA

PRODUCT	CAPRYLIC (C_8)	CAPRIC (C_{10})	LAURIC (C_{12})	MYRISTIC (C_{14})	PALMITIC (C_{16})	STEARIC (C_{18})	OLEIC (C_{18})
AAB	2.0%	4.0%	90.0%	2.0%	0.0	0.0	2.0%
ABL	1.5%	3.5%	70.0%	13.0%	8.0%	1.0%	3.0%

PRODUCT	FFA	TITRE°C	IODINE VALUE	ACID VALUE	SAP. VALUE	COLOR 5¼" Lovibond
AAB	139-144	37.0 Min.	3.0 Max.	277-286.4	277-286.4	15.0/2.0
ABL	138-141	30.0 Min.	5.0 Max.	274.4-280.4	274.4-280.4	20.0/3.0

Distilled and Fractionated Fatty Acids:

SOYA SAFFLOWER LINSEED OLEIC COTTONSEED STEARIC VRO
COCONUT LAURIC CAPRIC CAPRYLIC

Write for reference booklet, "Drew Fatty Acids"

TECHNICAL PRODUCTS DIVISION

E. F. DREW & CO., INC.

15 EAST 26th STREET, NEW YORK 10, N. Y.

CHICAGO PHILADELPHIA BOSTON

DREW PRODUCTS

STOPS THE EYE

STARTS THE SALE

EASY TO SEE

EASY TO REMEMBER

ADVERTISES IN THE HOME

ADDS DISTINCTION AND QUALITY

Blue acts as a powerful Advertising, Merchandising and Selling Tool

Is your package merely a container? Or does it perform double duty as a container and a salesman? Many famous brands have turned to Maryland Blue Glass for packaging that excels in *both* vital functions. Blue enhances your product and says, "Buy Me!" So follow the lead of many famous brands . . . pack to attract in Maryland Blue Glass. Write today for samples.

Maryland Glass Corporation • Baltimore 30, Maryland

PACK TO ATTRACT IN

Maryland Blue

• *Also available in Clear Glass*

Even in Sub-zero Weather...

COLUMBIA-SOUTHERN CAUSTIC CARS HELP INSURE EASY UNLOADING WITHOUT STEAMING!

During the transportation delays of the past winter, a car of liquid caustic soda was shipped January 25 from Columbia-Southern's Natrium, West Virginia, plant . . . arrived Chicago January 30 . . . spotted February 9 . . . unloaded February 12 *without the use of steam, and with a full line within a minute.*

During this nineteen day period the car was in transit, outside temperatures were mostly below freezing, twice reaching as low as 15 degrees below zero! Yet easy unloading was assured by the efficiency of the Columbia-Southern designed car.

The Columbia-Southern caustic tank car is one of the many valuable contributions to industry made by Columbia-Southern, pioneer in better transportation and handling of liquid caustic soda.

Columbia-Southern's policy is not only to make the highest grade caustic soda, but to ship it with caution and care to you.

Among the tank car features pioneered by Columbia-Southern are:

· the patented tank car lining which permits delivery of liquid caustic soda without metallic pick-up—in any concentration · the fusion welding which eliminates rivets as a possible source of leaks · increased tank car insulation · greatly improved heating equipment · and numerous other unloading and safety improvements.

COLUMBIA-SOUTHERN
CHEMICAL CORPORATION
SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY

EXECUTIVE OFFICES:
FIFTH AVENUE AT BELLEFIELD • PITTSBURGH 13, PA.

DISTRICT OFFICES: BOSTON • CHARLOTTE • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • HOUSTON • MINNEAPOLIS • NEW ORLEANS • NEW YORK • PHILADELPHIA • ST. LOUIS

SEE FOR YOURSELF

HOW *Nacconol** MIXTURES

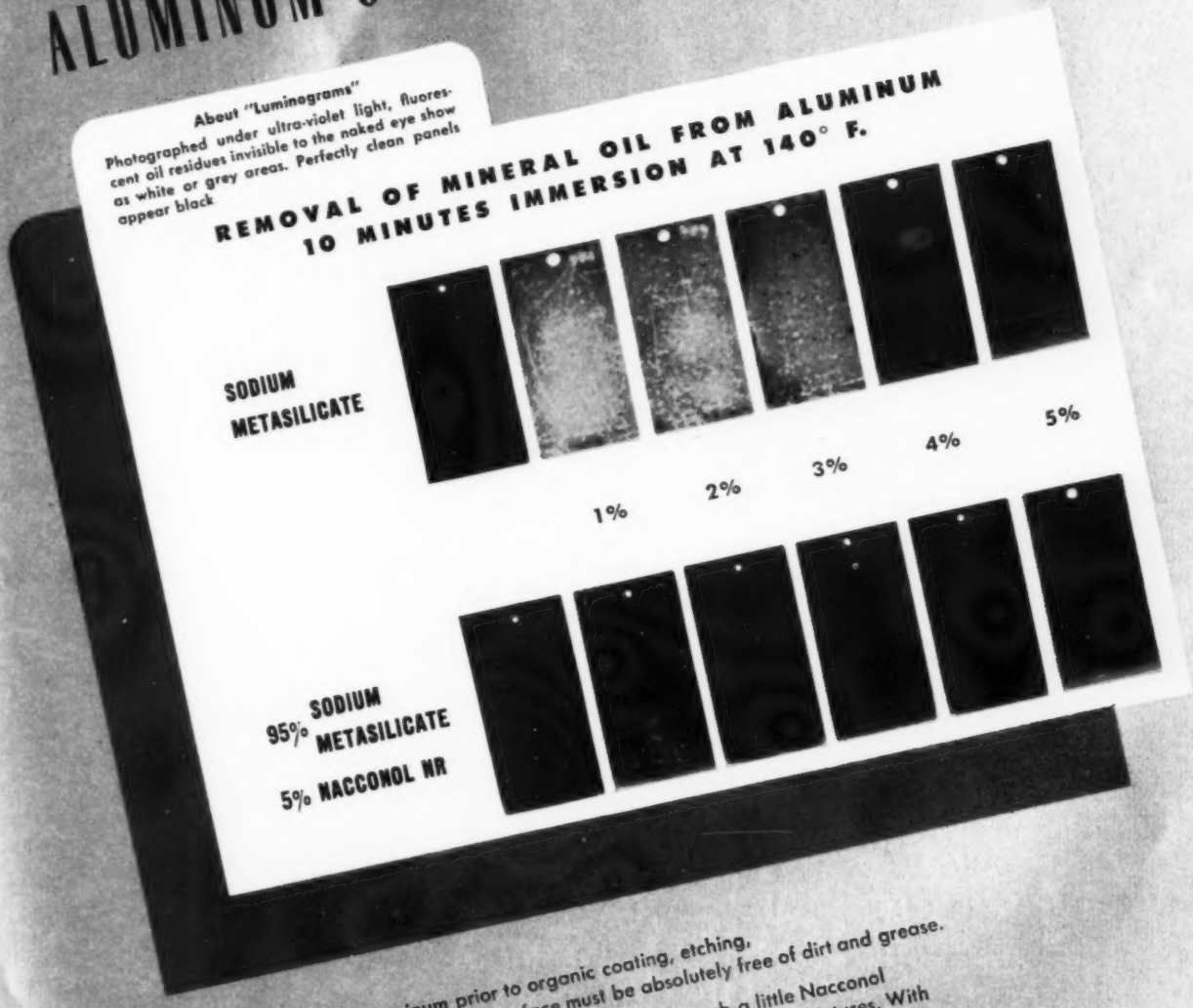
MAKE LIGHT WORK OF

ALUMINUM CLEANING

About "Luminograms"

Photographed under ultra-violet light, fluorescent oil residues invisible to the naked eye show as white or grey areas. Perfectly clean panels appear black

REMOVAL OF MINERAL OIL FROM ALUMINUM
10 MINUTES IMMERSION AT 140° F.



In cleaning aluminum prior to organic coating, etching, anodizing or coloring, the surface must be absolutely free of dirt and grease.

These ultra-violet light photographs show how much a little Nacconol helps to improve the effectiveness of aluminum-degreasing mixtures. With only 5% Nacconol in your mixture, you can offer these advantages: (1) lower alkali concentration, (2) lower operating temperatures, (3) shorter immersion period, (4) complete removal of oil, grease and dirt without corrosion of the aluminum.

send for technical bulletin

Test results with various Nacconol-alkali mixtures are given in complete detail in a Nacconol Technical Report #9914-6. It may suggest ways to increase the sales of your mixtures to the aluminum-fabricating industries.

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N.Y. • BOwling Green 9-2240

Boston 16, Mass., 100 Causeway St. CAsfle 7 0450
Providence 3, R.I., 15 Westminster St. DExter 1 3600
Philadelphia 6, Pa., 208-206 S. Front St. LIncoln 3 6302
San Francisco 5, Cal., 517 Howard St. SUtter 1 7567
Portland 9, Ore., 730 West Burnside St. BEacon 1053
Chicago 54, Ill., The Merchandise Mart SUperior 7-3307
Charlotte 1, N.C., 201-203 West First St. CHarlotte 3-9271
Richmond 10, Va., 8 North Fifth St. Richmond 2-1530
Columbus, Ga., Columbus Interstate Bldg. Columbus 2-7514
Greensboro, N.C., Jefferson Standard Bldg. GReenboro 2-7514
Chattanooga 2, Tenn., James Building Chattanooga 6-6347
Atlanta 2, Ga., 140 Peachtree St. CYpress 7821
New Orleans 12, La., 714 Carondelet Building Raymond 7228
Toronto 2, Canada, 137-143 Wellington St. W. Empire 4-9448

*Reg. U.S. Pat. Off.

paper sculpture by gorecka-egan

HANDLED WITH CARE

attention to quality in NIALK* chemicals for soap-making and for sanitary chemicals persists even to the selection of containers which will most assuredly safeguard quality in transit.

NIALK

Caustic Soda
Caustic Potash
Carbonate of Potash
Paradichlorobenzene

*Trade-mark

NIAGARA ALKALI COMPANY
60 East 42nd Street, New York 17, N. Y.

Liquid Chlorine • Caustic Potash • Carbonate of Potash • Paradichlorobenzene • Caustic Soda • TRICHLORethylene
NIAGATHAL* (Tetrachloro Phthalic Anhydride)

RENEX*

puts your detergent

Head and Shoulders Above Other Cleaners!

By combining* RENEX *with ordinary soaps or detergents, you solve virtually any cleaning problem

RENEX non-ionic detergent steps up the efficiency of soap and other detergents for household, industrial, or military cleaning.

For example, the detergency in hard water of a 50-50 combination of tallow soap and RENEX is from 40% to 55% greater than tallow soap alone. Adding only 5% RENEX to alkylaryl sulfonates increases detergency over 30%.

Cleaners properly made with **RENEX** do not leave a filmy residue even after repeated washings over a long period. RENEX prevents curds or scum build-up on machinery, dishes, fabrics, glassware.

RENEX is low in cost but high in efficiency. Write today for latest literature, including typical formulas for compounding.

*Reg. U. S. Pat. Off.

ATLAS INDUSTRIAL CHEMICALS DEPARTMENT

CHEMICALS ATLAS EXPLOSIVES

ATLAS POWDER COMPANY, Wilmington 99, Del. • *Offices in principal cities* • *Cable Address—Atpowco*
ATLAS POWDER COMPANY, CANADA, LTD., Brantford, Canada

YOU CAN ACHIEVE important perfuming economies with MM&R Liquid Soap Perfume Oils . . . because they dissolve clearly without filtration in solutions as dilute as 15% . . . and because they are priced at rock-bottom levels despite their superior strength and scent-appeal.

FREE TECHNICAL ASSISTANCE — The MM&R Technical Service Dept. will be happy to recommend — or develop — a perfume oil that will do the job you want within the requirements of your budget! Just send a sample of your unperfumed product and an indication of your price limitations — an economical, sales-stimulating scent will be added *for your approval* — without obligation.

Some of the most widely-used MM&R Perfume Oils for Liquid Soaps

LILAS BLANC L. S.
BLUEBELLOL MM&R
FOREST PINE BOUQUET
BLUESTONE BOUQUET
(a popular, flowery bouquet)

MAGNUS, MABEE & REYNARD, INC.

SINCE 1895 . . . ONE OF THE WORLD'S GREATEST SUPPLIERS OF ESSENTIAL OILS

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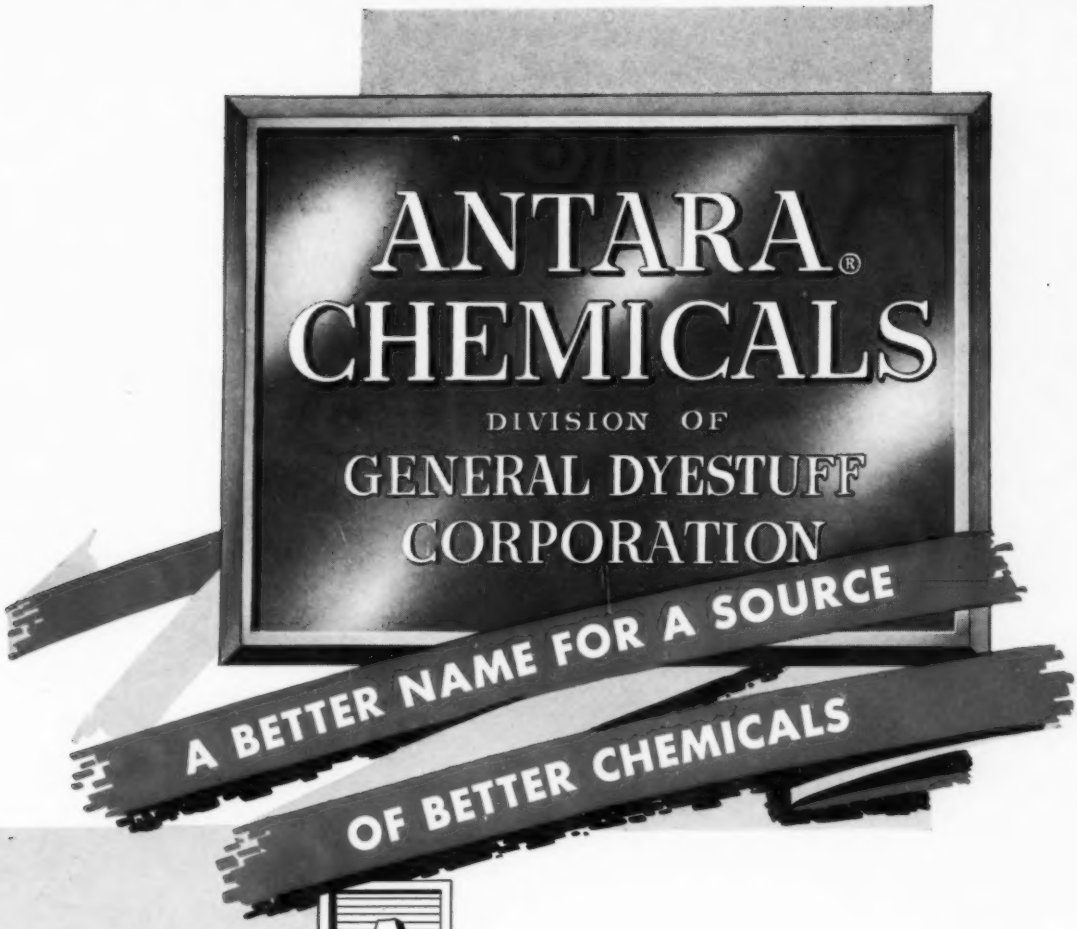


ANTARA CHEMICALS

SURFACTANTS —
anionic, nonionic, cationic — detergents, emulsifiers, dispersants, wetting agents, etc.

TEXTILE CHEMICALS

OPTICAL WHITENING AGENTS

INDUSTRIAL CHEMICALS

ORGANIC SEQUESTRANTS

PAPER AND LEATHER CHEMICALS

ORGANIC INTERMEDIATES

ACETYLENE DERIVATIVES

CARBONYL IRON POWDERS

ANTARA PRODUCTS, since October 1950 a division of General Dyestuff Corporation, this month changes its name to ANTARA CHEMICALS. The new name, it is believed, more accurately characterizes the general product line marketed by Antara—chemicals made by the General Aniline Works Division of General Aniline & Film Corporation for industry.

The change in name coincides with the inauguration of a multi-million dollar expansion program which will increase the research, production and service facilities of the division in the fields of surfactants, acetylene derivatives, intermediates and industrial chemicals.

For more complete information on any of the products in the broad categories listed at the left — or on the research, application and technical service facilities behind these products — please write on your company letterhead.

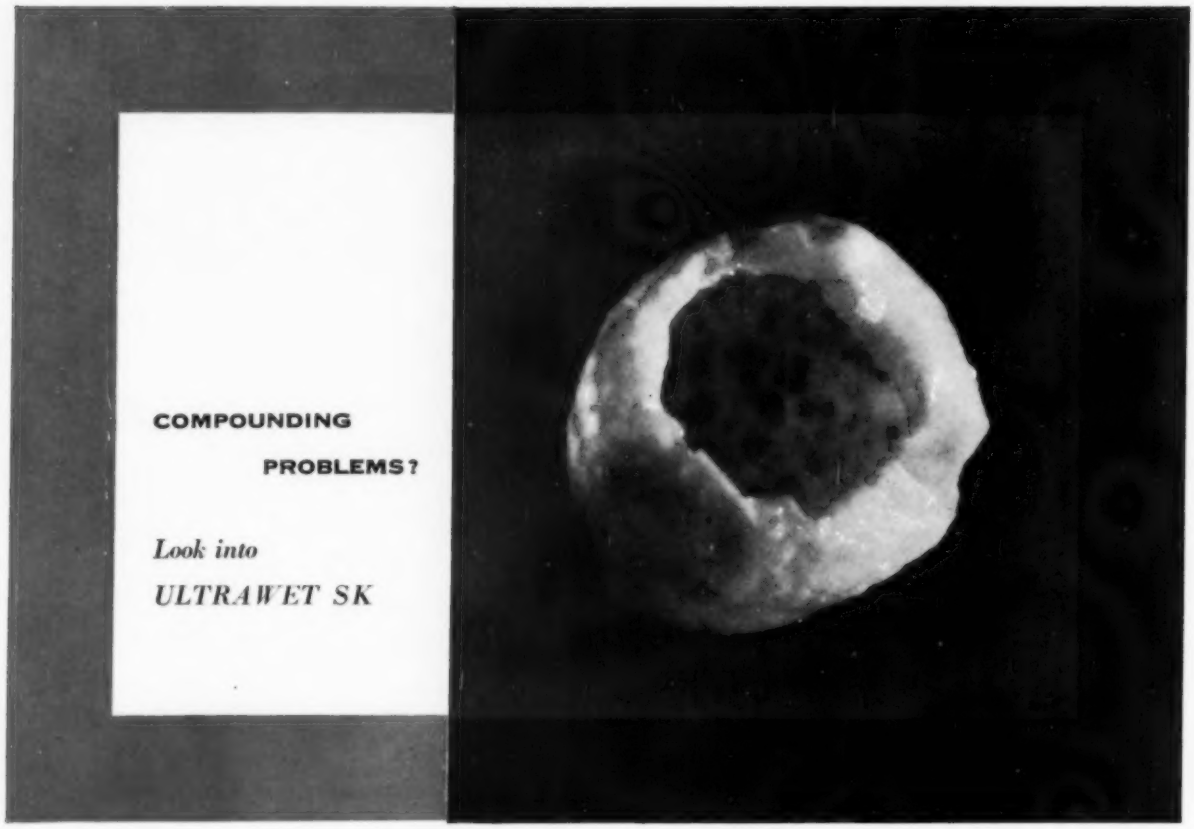
gdc ANTARA gaf

ANTARA® CHEMICALS
DIVISION OF
GENERAL DYESTUFF CORPORATION
435 HUDSON STREET • NEW YORK 14, NEW YORK

BRANCHES
Boston • Providence • Philadelphia • Charlotte, N. C. • Chicago • Portland, Ore. • San Francisco
IN CANADA: Chemical Developments of Canada Limited, Leaside, Toronto 17
Irwin Dyestuff Corporation Limited, Montreal 1

FOR THE FINEST AND FASTEST in Dyestuffs—it's INDANTHRENE...Ask For It!

Magnification of an ULTRAWET SK *bead.*



COMPOUNDING PROBLEMS?

Look into

ULTRAWET SK

ULTRAWET SK was developed with the compounder's problems in mind. *One* material to serve *two* purposes.

Its bead form lends itself perfectly to merchandising as *is* in light-duty applications—car wash, dishwashing, etc. ULTRAWET SK comes in regular and high densities to suit the container that you plan to use. Common to *both* densities is the whiteness of the beads—a definite plus value without added cost.

These dedusted and free-flowing beads make ULTRAWET SK ideal for compounding with builders or extenders for heavy-duty cleaners. We'll be glad to send you a bulletin showing the effects of mixing equipment—and the effects of builders—on the densities of the final product.

For technical information and co-operation, write The Atlantic Refining Company, Chemical Products Section, Dept. D-5, 260 S. Broad St., Philadelphia 1, Pa.

SOME OF THE ATLANTIC PETROLEUM CHEMICALS ARE CURRENTLY IN SHORT SUPPLY

Without obligation, please send me further information on ULTRAWET SK.
(Dept. D-5)

*Name*_____

*Company*_____

*Address*_____

ATLANTIC PETROLEUM CHEMICALS

IN THE EAST AND MIDWEST
THE ATLANTIC REFINING COMPANY
Philadelphia • Pittsburgh • Providence • Charlotte • Chicago

ON THE WEST COAST
L. H. BUTCHER COMPANY
San Francisco • Los Angeles • Seattle • Salt Lake City • Portland

IN CANADA
NAUGATUCK CHEMICALS . . . Division of Dominion Rubber Co., Ltd.
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(CLIP AND FILE)

Are you seeking these unique properties?

IT WILL PAY YOU TO INVESTIGATE
VICTOR POLYPHOSPHATES

The unusual properties of Victor sodium tripolyphosphate and tetrasodium pyrophosphate make them useful in many applications, and offer possibilities in others. From the data given here, you may see opportunities and want to investigate further. Experimental samples are available. Our research and development staff will welcome your inquiry and be pleased to work with you. Write today . . . on your company letterhead, please.

	SODIUM TRIPOLYPHOSPHATE	TETRASODIUM PYROPHOSPHATE
Chemical Formula	$Na_5P_3O_{10}$ (Anhyd.)	$Na_4P_2O_7$ (Anhyd.)
Typical Analysis	Phosphorus Pentoxide (P_2O_5).....57.5% Sulfates (SO_3)..... .07% Fluorine (F).....5 ppm* Arsenic (As_2O_3).....0.1 ppm* Lead (Pb).....0.4 ppm*	Phosphorus Pentoxide (P_2O_5)..... 53.1% Sulfates (SO_3)..... .07% Fluorine (F).....5 ppm* Arsenic (As_2O_3).....0.1 ppm* Lead (Pb).....0.4 ppm* *Parts per million
Types Available	Powdered and Granular	Powdered and Granular
pH — 1% Sol.	9.7	10.2
Solubility in 100 Parts of Water	25° C.—14.5 pts. 80° C.—23.25 pts. 40° C.—16.25 pts. 100° C.—32.5 pts. 60° C.—19.25 pts.	25° C.—6.0 pts. 80° C.—41.1 pts. 50° C.—16.5 pts. 95° C.—29.0 pts. 75° C.—46.0 pts.
Water Softening Efficiency—percentage of phosphate on weight of water required to secure zero hardness toward soap. Test waters contained 2 to 1 ratio of calcium to magnesium hardness.	Hardness PPM / Room Temp. / 140° F. / 180° F. 50 / 0.05% / 0.05% / 0.05% 100 / 0.11 / 0.11 / 0.09 200 / 0.20 / 0.18 / 0.15 300 / 0.30 / 0.27 / 0.21 400 / 0.39 / 0.33 / 0.27 500 / 0.50 / 0.48 / 0.33 Sodium Tripolyphosphate solubilizes both calcium and magnesium soaps.	Hardness PPM / Room Temp. / 140° F. / 180° F. 50 / 0.21% / 0.21% / 0.21% 100 / 0.38 / 0.30 / 0.26 200 / 0.56 / 0.45 / 0.38 300 / 0.66 / 0.55 / 0.54 400 / 0.75 / 0.69 / 0.69 500 / 0.88 / 0.75 / 0.75 Tetrasodium Pyrophosphate solubilizes magnesium soaps and disperses calcium soaps.
Stability to Reversion in Hot Water Solutions. (Both products are stable for months in solution at room temperature.)	After 10 hours at 160° F. solution will contain approximately 98% STPP (unchanged), 1.2% pyrophosphate, and 0.8% orthophosphate. After 2 hours at 212° F. (boiling) solution will contain approximately 80% STPP, 12% pyrophosphate, and 8% orthophosphate.	After 10 hours at 160° F.—practically no hydrolysis—solution still contains approximately 100% of original concentration of TSPP. After 2 hours boiling—99% TSPP, 1% orthophosphate. After 20 hours boiling—90% TSPP, 10% orthophosphate.
Peptizing and Dispersing of Solid Particles.	Both products are very effective, the choice depending on nature of solid particles to be dispersed.	
Prevention of Iron Stains	These phosphates hold iron in solution, preventing stains due to rusty pipes, equipment, or natural iron in water.	
Uses	Water softening. Builder for detergents and soaps—including bar and chip soap (non-blooming). Industrial cleaners. Dispersant for pitch control in paper manufacture. Clay dispersing. Textile processing. Conditioning drilling muds.	Water softening. Builder for soaps and detergents. Conditioning drilling muds. Industrial cleaners subjected to high temperatures for long periods. Stabilizing peroxide bleach baths. Clay dispersing. Textile processing. De-inking newsprint. Tin plating.

VICTOR CHEMICAL WORKS
141 West Jackson Boulevard • Chicago 4, Illinois
A. R. Maas Chemical Co., Division • 4570 Ardine Street, South Gate, California

If you want to formulate a liquid soap or cleaning compound that is fatal to germs but safe for human beings and pets, investigate Monsanto Santophen 1.

Monsanto Santophen 1 (ortho-benzyl-para-chlorophenol) offers these sales-building qualities:

1. It is a single, stable compound with purity above 98%.
2. It is a potent bactericide, having phenol coefficients in the order of 150 to 200 against standard test organisms.
3. It is highly toxic to fungi, killing in concentrations of .002%.
4. It has low toxicity to higher animals. Properly formulated in usage strength, it shows no indication toward skin irritation or sensitization.
5. It is easy to handle, light in color, nonstaining in solutions, with faint, nonpersistent odor.

Currently, supplies of Santophen 1 are limited. It is timely, however, to perfect formulations for your future successes. For details on the use of Santophen 1, write for a free copy of Monsanto Technical Bulletin No. O-51, "*Santophen 1 for Use in Disinfectants.*" Address the nearest Monsanto Sales Office or MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second St., St. Louis 4, Mo.

Sales-building products made with SANTOPHEN 1

In Rug Shampoos, Santophen 1 both cleans and destroys germs... bacteria count reduced from 8,000,000 to 16 per square yard in a typical test.

In Surgical Soaps, Santophen 1 destroys bacteria but is nonirritating to human beings when properly formulated.

In Cleaners for rest and locker rooms, Santophen 1 is effective even in cold solutions. It destroys fungi. It helps to control "athlete's foot" in locker rooms and around swimming pools.

In Hospitals, Santophen 1 formulations may be used effectively on floors, walls, linens, surgical instruments.

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

Santophen: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS AND PLASTICS

SERVING INDUSTRY... WHICH SERVES MANKIND

A Bedtime Story for Very Junior Chemists

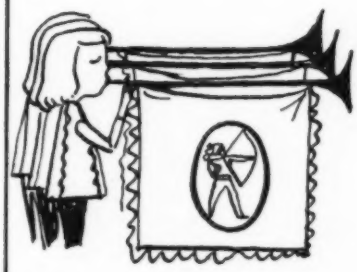
Once upon a time, there lived a sad little Sodium CarboxyMethylCellulose. He worked very hard extending Soaps and improving Synthetics. But all the Soaps called him a "war baby." And he wasn't allowed to associate with any but Low Grade Synthetic Detergents.

So he ran away. And arrived one day on the Doorstep of a Corporation in Wyandotte, Michigan. The Corporation picked him up and handed him over to the Research and Development Division. Well, you should see what they did for this little "war baby"!

They changed his length and Molecular Structure. They Manufactured him by a brand new Process. They let him associate with High Grade Synthetic Detergents. And then they gave him a name . . . "Carbose*." *Reg. U. S. Pat. Off.

Carbose might have been very happy—but the Soaps still put on airs. "No matter how hard you and those Synthetics try," the Soaps told him, "nothing cleans as well as Soap."

But he worked hard just the same. He practiced Soil Removing and Whiteness Retaining and all the other things a detergency promoter should. And one great day, the Research and Development Division called the Soaps and Synthetics together and read a Proclamation:



"Synthetic Detergent products can be formulated with Carbose which will yield detergency equal to that of High Grade Soaps under conditions favorable to Soap, and far superior to High Grade Soaps under conditions unfavorable to Soap."

"Carbose!" Why, they were talking about him! Carbose was a hero! Yes, it was a great triumph for him . . . but Carbose went on . . . had a large family and did many more things . . . in textiles, paper, paints, ceramics, petroleum . . . and even in soap!

Soda Ash • Caustic Soda • Bicarbonate of Soda • Calcium Carbonate • Calcium Chloride • Chlorine • Hydrogen • Dry Ice Synthetic Detergents • Glycols • Carbose (Sodium CMC) • Ethylene Dichloride Propylene Dichloride • Aromatic Sulfonic Acid Derivatives • Other Organic and Inorganic Chemicals

WYANDOTTE CHEMICALS CORPORATION
Wyandotte, Michigan Offices in Principal Cities

Wyandotte
REG. U. S. PAT. OFF.

So if you are looking for a chemical with applications involving viscosity regulation, colloid stabilization, surface finishing, or detergency, why not write to us about Carbose?

better business lure

Want to improve the sales appeal of your cleaners and washing compounds? Add attractive, hard-working Metso Detergents. Your entire organization will value them—

Sales —**Cleaners and detergents in your line earn buyer preference by attractive appearance, effective performance, and economy.**

Production department —**Metso's uniform quality makes it easy to control formulas. Packaging in 100 lb. bags and in re-usable fibre drums is also a convenience.**

Laboratory —**Metso is versatile; it's good for so many different formulas. A good mixer too for soaps, complex phosphates, synthetic detergents and other alkalies. Balanced soluble silica protects sensitive surfaces and prevents redeposition of dirt.**

Free technical bulletins describing Metso Detergents, as well as other PQ dry and liquid soluble silicates will be mailed on request.

PHILADELPHIA QUARTZ COMPANY
1152 Public Ledger Bldg., Philadelphia 6, Pa.

METSO
ACTIVE ALWAYS
REG. U.S. PAT. OFF.

Metso® Detergents

1831 — 120th Anniversary — 1951

Investigate the advantages of new lauryl sulphate

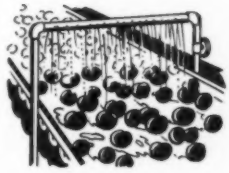
sipon® detergents

SIPON lauryl sulphates, when used as surface active agents, exhibit outstanding detergent, foaming, wetting and emulsifying properties under all conditions. Neither temperature variation nor the presence of inorganic salts (as in hard water) materially affect performance. Shown below are only a few of their more general uses. In addition, special grades of SIPON are available to meet specific requirements.

SIPON L-20	SIPON LS	SIPON LT
Ammonium Lauryl Sulphate	Sodium Lauryl Sulphate	Triethanolamine Lauryl Sulphate


Dishwashing Compounds


Car Washing

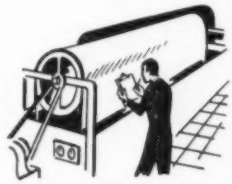

Fruit & Vegetable Washing


Pet Shampoos


Liquid & Creme Shampoos

Waterless Paste Detergents


Rug Cleaning


Textile Washing & Dyeing


Bubble Bath Compounds


Household Detergents


Upholstery Washing

Medicated Soaps

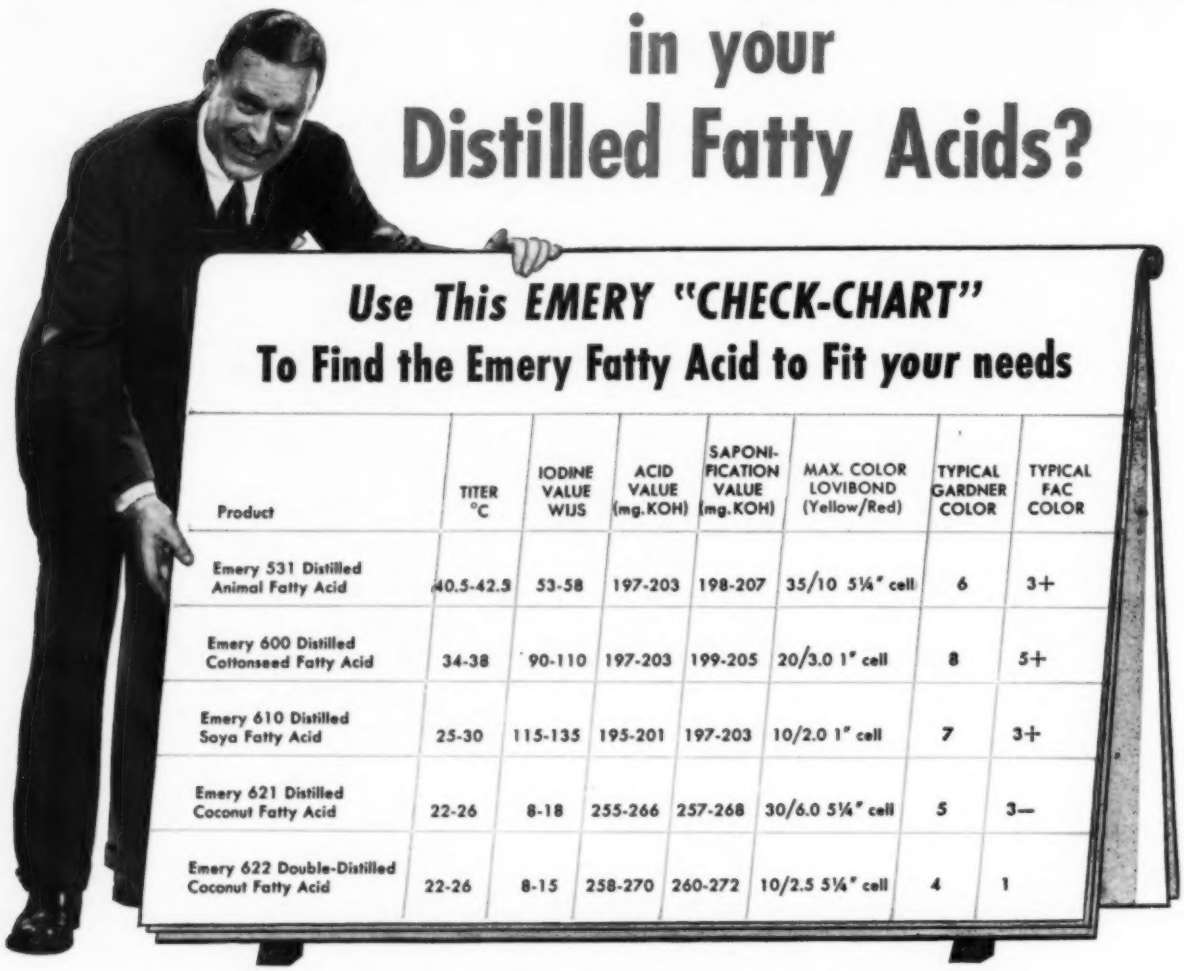
"There is a SIPON to meet every detergent need"

TECHNICAL SERVICE, including formulae for finished products, is available. Do not hesitate to take advantage of the services of our technical staff. Write now for descriptive literature and prices.

SIPON

AMERICAN ALCOLAC CORP.
3442 Fairfield Road
Baltimore 26, Md.

Need Consistent, Uniform Quality in your Distilled Fatty Acids?



Use This EMERY "CHECK-CHART" To Find the Emery Fatty Acid to Fit your needs

Product	TITER °C	IODINE VALUE WIJS	ACID VALUE (mg.KOH)	SAPONIFICATION VALUE (mg.KOH)	MAX. COLOR LOVIBOND (Yellow/Red)	TYPICAL GARDNER COLOR	TYPICAL FAC COLOR
Emery 531 Distilled Animal Fatty Acid	40.5-42.5	53-58	197-203	198-207	35/10 5¼" cell	6	3+
Emery 600 Distilled Cottonseed Fatty Acid	34-38	90-110	197-203	199-205	20/3.0 1" cell	8	5+
Emery 610 Distilled Soya Fatty Acid	25-30	115-135	195-201	197-203	10/2.0 1" cell	7	3+
Emery 621 Distilled Coconut Fatty Acid	22-26	8-18	255-266	257-268	30/6.0 5¼" cell	5	3—
Emery 622 Double-Distilled Coconut Fatty Acid	22-26	8-15	258-270	260-272	10/2.5 5¼" cell	4	1

Don't take chances . . . specify Emery Distilled Fatty Acids and be sure of the same high quality every time

When you specify Emery Fatty Acids for your products, you safeguard quality and ensure customer satisfaction. Whenever or in whatever quantity . . . you get the same unvarying, uniformly high quality.

For example Emery Double Distilled Coconut Fatty Acid (Emery 622) is one of the finest coconut fatty acids available anywhere. This as well as the other Emery Distilled Acids . . . Animal, Soya, and Cottonseed are held to within narrow specification limits. This strict quality, coupled with freedom from impurities will make your products better, stay better longer! For the best, buy Emery!

YOUR TECHNICAL PROBLEMS are the *problems of the Emery's Development and Service Department. Call on us for help in making your use of fatty acids more profitable, more effective.*

EMERY
INDUSTRIES, INC.
CAREW TOWER, CINCINNATI 2, OHIO

Branch Offices

Representatives:

Warehouse stocks also in St. Louis, Suffolk, Baltimore and Los Angeles

Aroma Can't Be Built in a Day...

IT HAS TAKEN YEARS to develop many captivating aromas to fit the increasing demand for perfumery. In order to assist manufacturers in shortening the development period of their new products, NAUGATUCK AROMATICS has been constantly experimenting and developing such aromas for many years and is in a position to supply proven products to fit almost any problem. Why don't *you* consult with NAUGATUCK AROMATICS? You'll find a perfect combination of skill, resources and experience to help you handle your odor problem.

Write, or call us—soon!

NAUGAROMES—For various industrial and commercial uses.

SOAPOLS—For bar, paste and liquid soaps.

SHAMPAROMES—For liquid, cream and paste shampoos.

MODERN BASES—For fine perfumes, colognes, toilet waters, toilet preparations, etc.

CREAMODORS—For all types of creams and lotions.

NAUGATUCK AROMATICS

DIVISION OF UNITED STATES RUBBER COMPANY

254 Fourth Avenue, New York 10, N. Y.—701 South La Salle Street, Chicago 5, Ill.

Toronto—Montreal

Sole Distributors for:

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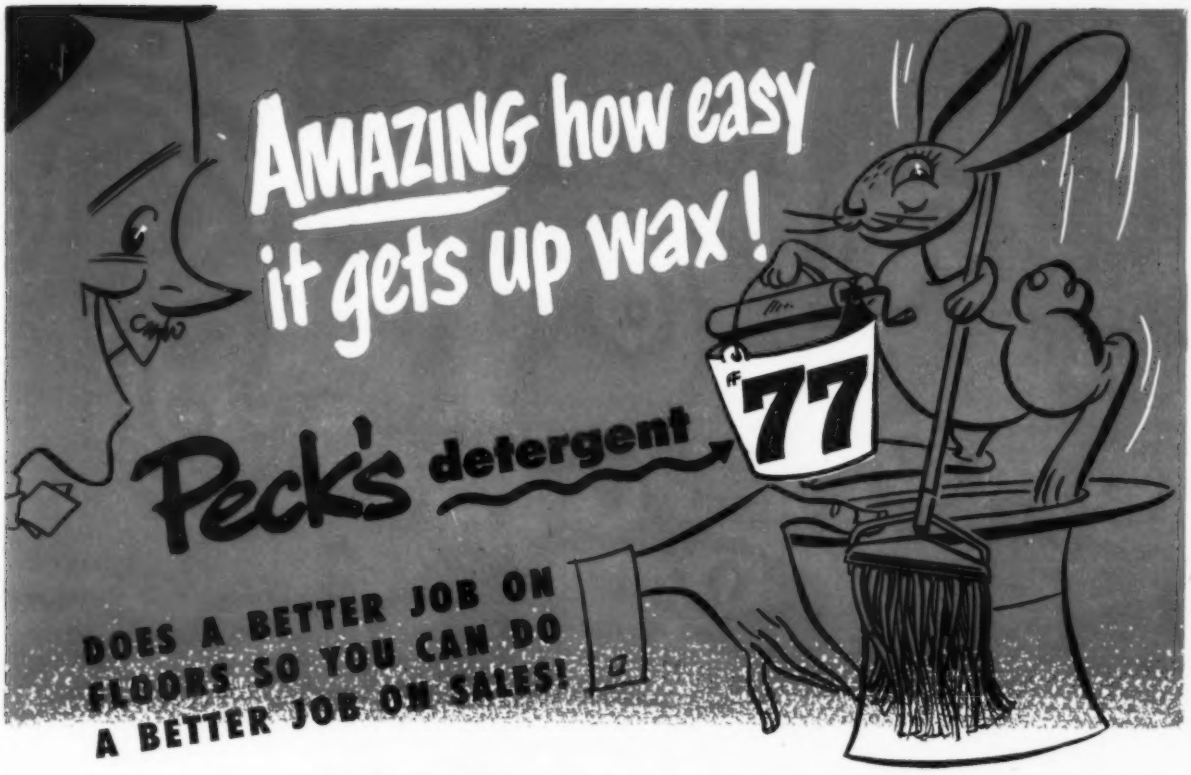

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AS THE EDITOR SEES IT

SOAP sales in retail channels continue below par, according to latest observations among grocers in various parts of the country. Sales head for one of the larger soapers, recently returned from an extensive trip, commented on the incongruous situation of full page newspaper advertisements used to promote the distribution of free-goods coupons. And, he noted, the rate of redemption on the better known products has been fair, but slow on others. But with it all, chiseling on soap coupons continues apace and soap sales have shown relatively poor over-all response to promotion efforts. Manufacturers accept coupon racketeering more or less philosophically, but if their efforts were successful in selling more soap and detergents, they would be less worried.

With the establishment of lower ceiling prices on detergents and soaps, a two-way squeeze was put on manufacturers' sales. First, inventories among dealers were large, such are no longer necessary, and chief efforts have been directed to inventory reduction. Second, with no threat of higher prices and the assurance that prices can move only down, if they move at all, buying has assumed day-by-day proportions. The great buying stimulant of early 1950, stock up now because prices will probably be higher tomorrow, has become only a memory. In some cases, prices had been dropped temporarily with the threat that they soon again would be raised, but the recent reduction in soap ceilings by OPS has left the exponents of any such maneuver holding the bag.

The outlook for the first half of 1952, from off-hand observations, does not appear any brighter. Grocers are "coupon-happy" today and could be even more so come next May or June. Any chance that couponing and give-aways will recede does not appear to be in the cards as they now stack up. About all the average soaper can do is sit, and wait, and hope, and then if anything happens to change the basic situation or lift off ceiling prices, adjust his sales strategy accordingly.

AS the end of 1951 gets close, most producers and marketers of detergents and soaps have a pretty good idea how their business for the year will shape up as compared with 1950. Taking the industry as a whole, our guess is that total volume of sales in 1951 will run about 10 or 12 per cent behind last year. For the larger soapers, we believe that the loss will be greater, probably 15 or 16 per cent. The average smaller manufacturer, we have a hunch, lost less business proportionately than his larger competitors. In fact, several small producers, mainly of soap specialties, reported to us that their 1951 sales were up to 20 per cent ahead of last year. No large soaper admitted to anything but a reduction in sales.

Along with a drop in business has come a decline in most company earnings. Further to complicate the situation is the ever mounting level of taxes. These two factors create the impression among manufacturers of being caught between the irresistible force and the immovable barrier. Less earnings to pay more taxes! Not exactly a healthy trend if it continues. But the hope of any cut-back in taxes for the years immediately ahead is remote indeed. Apparently, the only alternative to keep one's head above water will be to hold earnings at a level where taxes do not decimate them completely. How to do this in the face of declining sales is described fully on Page 58 of the latest edition of Grimm's Fairy Tales.

ONE of the brighter spots in a muddled-up market for soaps and detergents has been the mounting success of many liquid detergents. In some mid-west areas, recent reports indicate that they are outselling the powders on a package basis. One of the larger manufacturers who heretofore has not marketed a liquid is reported about ready to come out with a new product and a major campaign. The number of smaller firms who have added liquids to their lines over the past year has been large. In most cases, these bottled detergents have been the newest baby in the product family and accordingly have received the big sales push as is usually the case.

Several years ago, we were bearish on the household market future of liquid detergents in bottles. We have eaten our words on several occasions. The average housewife, it was felt, would not pay the apparent high price for such a small bottle of any cleaning agent, no matter how concentrated or how good. To some extent, this criticism was answered by larger bottles and less concentration. But, the eminent success of the liquids probably stems chiefly from their superiority, particularly for dish washing. At this sitting, it looks like a plain case of "a better mouse trap." Time will tell us more.

FOR an error regarding the processing tax on coconut oil which was published here in the October issue, we have been taken to task by the National Institute of Oilseeds Products and by the Bureau of Raw Materials for American Vegetable Oils and Fats Industries. We stated that the Institute had favored converting the present processing tax to a straight import duty of like amount on coconut oil. In this, we have been told, we were incorrect and that the Institute and the Bureau of Raw Materials opposed *any* tax on coconut oil before the House Ways and Means Committee, and that they oppose both processing tax or import duty as further unnecessary, uneconomic, and an undue burden on coconut oil processors and users in the United States. With this contention, we have been and are in full accord. We sincerely regret the error and any embarrassment it may have caused these associations or others. A letter from Howard Boone of the Institute appears elsewhere in this issue.

TOURING the country as something of a congressional road show, the Delaney Committee of "chemicals in food" fame is now holding court on the West Coast. These new hearings of the congressional caravan ostensibly aim to unearth the naked truth about "chemicals" in cosmetics, including also shampoos. After its performance on the West Coast, including testimony by a few genuine cosmeticians, the troupe moves on to Chicago, New York and points south. By no means should a session in Hollywood be overlooked. And the southern part of the tour should include those months when snow and ice cover the northland.

With the former Washington hearings of the Delaney Committee on "chemicals in food" and the attending newspaper and magazine publicity fresh in memory, we are certain that these new hearings will be assured plenty of front-page space if they measure up to former standards. At least two famous Hollywood female stars should be called to give "scientific" testimony on cosmetics. They must possess shapely legs and display them while testifying. Down South, we suggest that a real scientific atmosphere might be induced via free corn pone and hillbilly music.

In Chicago and New York, the "news" opportunities are legion. No member of the committee need be denied that inalienable privilege of getting his name and face in the papers. Zest and punch might be added to the hearings in case television is available by the time-tested appeal of dancing girls or a good dog act. But then there is the expense to consider and we all know how hesitant congressmen are to spend the people's dough on such things. So, the hearings probably will have to confine their activities mostly to "scientific" witnesses like in Washington. Maybe one or two local butchers or cab drivers will be called to testify to add that common-man flavor which congressional committees make believe they like, and which is sure-fire "news" always. So, on with the show!

Surfactant Performance

By Herbert L. Sanders
Ninol Laboratories

Paper presented at 38th annual meeting C.S.M.A., Washington, D. C., Dec. 2.

IN the period since the synthetic surface active agents were first introduced in the U. S. twenty years ago, the number of commercially available brands has increased from the original half-dozen to about a thousand at the present time, and is continuing to grow at the rate of about a hundred per year. As a result, the task of selecting the best surfactant for a particular application has become increasingly formidable, especially in the absence of convenient reference tables rating these products with respect to wetting power, detergent ability, and other properties.

Faced with such problems as finding a suitable emulsifier for a silicone or a foaming agent for a caustic solution, chemists are forced to make their selections almost at random from a multitude of competing products and claims, and must often test scores or even hundreds of products to locate the proper one. A considerable amount of such test work is probably unavoidable in any event, but the existence of some type of guide list could do much towards at least reducing the number of products selected for preliminary examination.

Both J. W. McCutcheon of New York, and the Research Advisory Committee of Columbus have made important contributions along these lines by making available punched card indexes listing the properties of several hundred surfactants. Most of this information was obtained through questionnaires to manufacturers, however, rather than by direct experiment, with the result that much of the data is of a rather general qualitative nature, and test methods are not described.

In the present paper a number of tables were prepared from data developed in this laboratory and elsewhere in order to list the relative performance ratings of some representative surfactants with respect to detergency, foam, wetting, etc., under simple test conditions. As will be seen, however, information of this sort, while helpful, must be used with caution when applied to actual operating systems.

Detergency Measurement

BY far the most important property of surfactants is their ability to remove soil. Probably two-thirds of the total synthetic produced, and four-fifths of all soap production, is used in cleaning operations of one kind or another. From an evaluation point of view, the measurement of cotton detergency has probably received the greatest attention in the technical literature, many surfactant manufacturers using cotton detergency as a standard laboratory test method for general cleaning power. Although some workers have attempted to use such distantly related properties as surface tension or suspending power as a measure of cotton detergency, the commonest method is an empirical use test in which cotton fabric is soiled in a carbon black suspension and then washed partially clean in a Launderometer.

Using such a method, the results in Table 1 were obtained by Furry (1) for the comparative detergent efficiencies of a number of different surfactants, taking an unbuilt soap as standard, or unity.

It is now rather generally recognized, however, that this type of test is not highly accurate, and that other investigators, using slightly different soiled cloths, might have arrived at completely different arrangements of the detergents in this list. For example, Sanders and Lambert (2) compared a soap with a built polyglycol ether using four different commercially available carbon soiled test fabrics. With two of these fabrics the soap appeared superior, with the other two the nonionic. Harris and Brown (3) found much the same effects in a similar study.

Such reversals seem to be common in this field. Crowe (4) has shown that apparently identical cotton detergency tests will lead to completely different results when run in separate laboratories. This seems to be due to the fact that the adhesion and penetration of the carbon black soil into the fibers is greatly affected by variables such as humidity, drying temperatures, etc. In any one laboratory it is possible, by taking great pains, to control these variables sufficiently to obtain reproducible results, but these results will usually be different from those obtained in some other laboratory.

Although tests of this type can be used to detect extremely poor detergents (such as wetting agents), they are incapable of reliably differentiating between the better ones. The data in Table 1, for example, indicate

only that soap may be best and the quaternary worst, with all the rest probably close together. The exact order in which most of the detergents are arranged in this table is probably without any particular significance, and depends mainly on the way in which the soiled cloth was prepared in this particular laboratory.

It should be added that alkaline builders can greatly improve detergency, so that built polyglycol esters or amine condensates for instance, may excel soap in practice. Table 2, calculated from Armstrong's paper (5) gives the results obtained when 0.25 per cent sodium carbonate is used as a builder.

Furthermore, slight changes in the type of surface involved may completely reverse results as was pointed out by Schwartz (6), who found that soap was better than an alkyl aryl sulfonate for cleaning soiled viscose rayon, whereas the opposite was true with acetate rayon.

It would appear, then, that the rating of surfactants as cotton detergents is beset with many difficulties, and that a good cotton detergent may not necessarily clean some other type of material well.

Role of Foam

DEPENDING on the type of application, foam may be an asset or a drawback. In household cleaners such as dishwashing detergents or shampoos, foam is highly prized, not so much for functional as for esthetic reasons; billowy white suds convey a suggestion of cleanliness that is very convincing to most people. On the other hand, foam is generally recognized as undesirable where it interferes with mechanical action, as in dishwashing machines, paint mixing or spray cleaners.

In general, foam adds nothing to detergency, with the possible exception of a few cases such as fabric shampoos or hand soaps where the lather may be heavy enough to carry soil away mechanically. Nevertheless, the overwhelming public demand for copious foam has been responsible for a great deal of research directed toward production of high foaming detergents.

Since no comparative tables of foaming power were found in the literature, measurements were carried out in this laboratory using the Ross-Miles foam column (7), with the results in Table 3.

As in all laboratory test methods in the surfactant field, the Ross-Miles pour-test results may not necessarily agree completely with those obtained under actual operating conditions, where types of agitation may vary greatly. A mere change in the size of the equipment is sometimes sufficient to influence results. This is shown by an experiment in which a pour-foam test was run in a 16 inch diameter vessel, instead of the 2 inch tube used in the Ross-Miles apparatus; without the supporting action of the walls, the foam of Igepon T was found to be quite unstable.

In general, however, a low foam height in the Ross-Miles test is a fairly reliable indication of poor foam in most practical applications. A high foam figure may sometimes be misleading, however. This is particularly true if considerable soil is to be present in practice. A series of dishwashing tests was carried out with some of the better foamers of Table 3 in order to illustrate this point. The tests were made by soiling dishes with "Crisco" and then washing them in a dishpan containing a 0.1% active solution of detergent in 150 ppm tap water until the foam had largely subsided; the number of dishes washed was taken as measure of the foam stability. The results were as follows:

Detergent	*Number of Dishes*
Miranol HM	20
Duponol WA	16
Ultrawet K	14
Igepon T H.C.	8
Arctic Syntex M	7

Obviously the last two perform much more poorly than might be expected from the Ross-Miles results.

Two conclusions of rather general interest can be drawn from Table 3, however. One is that all the nonionics are rather poor foamers; the other is that wetting agents tend to have very unstable foams. Detergents may show either high or low foam.

Wetting Properties

IN the textile industry the rapid wetting of fabrics is of great importance, and in fact the whole field of surfactants was originally opened up by the need for better fabric wetters. On the other hand, there are applications where high wetting power is undesirable, as in rug shampoos where excessive wet-through during on-location cleaning must be avoided.

Although a considerable amount of scattered data on wetting power exists, it was decided to measure a number of representative surfactants in this laboratory, using the Draves cotton skein sinking test. The results are given in Table 4.

It was considered of interest

TABLE 1
Cotton Detergency of Unbuilt Surfactants

Detergent	*Relative Cleaning Efficiency* Dist. Water	300 p.p.m. Water
Soap	1.00	0.31
Sod. Lauryl Sulfate	0.78	0.57
Polyglycol Ether	0.75	0.58
Amine Condensate	0.73	0.52
Sulfated Glyceryl Ester	0.67	0.28
Sulfonated Ethyl Ester	0.63	0.43
Alkyl Aryl Sulfonate	0.58	0.35
Polyglycol Ester	0.48	0.25
Quaternary	0.31	0.33

Note: Run at 60° in 0.25% solutions of the detergent.

TABLE 2
Cotton Detergency of Built Surfactants

Detergent	*Type*	*Relative Cleaning Efficiency*
Igepon A	Sulfonated Ethyl Ester	1.14
Atlas G-1226	Tall Oil Polyglycol Ester	1.12
Ninol 979	Amine Condensate	1.05
Texscour	Unbuilt Soap	1.00
Triton NE	Alkaryl Polyglycol Ether	0.98
Igepon T	Sulfonated Fatty Amide	0.88
Duponol D	Sod. Lauryl Sulfate	0.81
Nacconol NR	Sod. Alkaryl Sulfonate	0.78
Roccal	Quaternary	0.28

Note: Run at 45° C. with 0.25% active detergent and 0.25% Na_2CO_3.

TABLE 3
Foaming Power of Surfactants (Ross-Miles Test)

Surfactant	% Activity as Marketed	Type	Foam Height (mm.) Distilled Water 0 min.	Distilled Water 5 min.	350 p.p.m. Hard Water 0 min.	350 p.p.m. Hard Water 5 min
Miranol HM	40	Lauroyl Imidazoline	220	215	120	110
Duponol WA Paste	31	Sod. Lorol Sulfate	200	200	125	120
Ultrawet K	85	Sod. Alkaryl Sulfonate	200	195	225	220
Arctic Syntex M	32	Sod. Monoglyceride Sulfate	205	195	205	200
Antaron K460	60	Sod. Alkaryl Polyglycol Sulfate	190	185	220	215
Igepon T H.C.	72	Sod. Oleyl Taurate	195	195	170	170
Maypon 4C	35	Oleic-Protein Condensate	175	170	155	145
Ninol 128	100	Amine Condensate	170	165	45	35
Pot. Coconut Soap	15		160	150	15	10
Onyx BTC	50	Quaternary	190	70	190	20
Aerosol OT	100	Sod. Dioctyl Sulfosuccinate	180	15	50	15
Brij 35	100	Lorol Polyglycol Ether	120	110	95	85
Nekal BX H.C.	80	Sod. Dibutyl Naphthalene Sulfonate	105	25	180	15
Triton X100	100	Alkyl Phenol Polyglycol Ether	125	75	115	60
Tergitol 4	25	Sod. sec-Alcohol Sulfate	110	5	90	5
Tween 20	100	Sorbitan Monolaurate Polyglycol Ether	85	75	80	70
Monosulph	68	Sulfonated Castor Oil	90	30	20	0
Sterox CD	100	Tall Oil Polyglycol Ester	35	30	35	30

Note: Run at 0.1% active ingredient at 30° C.

to determine whether these results were valid for systems other than cotton. For example, in dishwashing it is important to have the detergent solution wet the glassware thoroughly and spread over the surface in a uniform "sheet" in order to avoid water spots. A series of tests was therefore run to find the minimum concentration of surfactant required to make water wet glass slides uniformly. These experiments were carried out by dipping air-contaminated microscope slides into solutions of increasing concentration at room temperature until uniform wetting or spreading was obtained. The results were as follows:

Surfactant	Minimum % Active for Uniform Wetting
Triton X 100	0.03
Igepon T H.C.	0.03
Ninol 128	0.06
Duponol WA	0.07
Coconut Soap	0.08
Ultrawet K	0.12
Aerosol OT	0.25
Nekal BX H.C.	0.45
Tergitol 4	0.45
Sterox CD	Over 1.0
Onyx BTC	Over 1.0

As can be seen, the wetting of greasy glass does not parallel the wetting of greasy cotton, "Aerosol" OT being poorer than the coconut soap for example. An examination of the various surface tensions involved, however, helps to explain these results, as follows:

The spreading tendency of a surfactant solution over an oily surface can be estimated from the Spreading Coefficient, which is given by the expression S_o-S_s-S_{os} (where S_o is the surface tension of the oil, S_s the surface tension of the surfactant solution, and S_{os} the interfacial tension between the oil and the solution). The more positive the spreading coefficient, the greater the tendency to spread. Table 5 gives the values obtained in this laboratory for 0.05% active solutions of several surfactants. In general, it will be seen that products with the

TABLE 4
Wetting Speeds of Common Surfactants (Draves Test)

Surfactant	Wetting Time (Sec.)
Aerosol OT	7
Triton X100	28
Ultrawet K	37
Ninol 128	41
Igepon T H.C.	45
Miranol HM	50
Tergitol 4	118
Duponol WA	118
Pot. Coconut Soap	Over 180
Arctic Syntex M	Over 180
Brij 35	Over 180
Nekal BX H.C.	Over 180
Sterox CD	Over 180
Monosulph	Over 180
Tween 20	Over 180
Onyx BTC	Over 180

Note: Run at 0.05% active in distilled water at 30° C., using 1.5 g. hook. Average of 3 runs.

TABLE 5
Surface Activities of Surfactants

Surfactant	Surface Tension	Interfacial Tension	Spreading Coefficient
Ninol 128	26.6	0.3	+ 3.1
Ultrawet K	26.8	1.2	+ 2.0
Triton X100	29.1	1.6	— 0.7
Miranol HM	24.0	7.0	— 1.0
Arctic Syntex M	27.6	4.0	— 1.6
Aerosol OT	28.5	5.2	— 3.7
Igepon T H.C.	28.0	7.4	— 5.4
Duponol WA	25.2	11.8	— 7.0
Onyx BTC	37.1	1.6	— 8.7
Coconut Soap	24.4	14.9	— 9.3
Sterox CD	36.0	6.0	—12.0
Tween 20	35.8	6.6	—12.4
Brij 35	37.0	7.4	—14.4
Monosulph	38.1	10.4	—18.5
Nekal BX H.C.	42.0	12.3	—24.3
Tergitol 4	38.8	28.6	—37.4

Note: Measured at 0.05% active detergent in distilled water at 30° C.

more positive (or less negative) coefficients were also the ones that showed better spreading on glass.

Emulsification

EMULSIFIERS are very much more specific in their action than either wetting agents or detergents, and even slight changes in the nature of the oil involved may make a given emulsifier useless. This high specificity makes it very difficult to draw up comparative tables of emulsifier performance.

The major anionics used as emulsifiers are the soaps, mahogany sulfonates and sulfonated oils. Together, these three classes probably account for two-thirds of all emulsifiers used today (8). Recently, however, the nonionics have begun to assume importance in this field, and a wide variety of water soluble and oil soluble types are available. One of the older ones is glycerol monostearate; the Ninol-type amine condensates also have been used for years in cosmetics. But the most widely used nonionics today are the polyglycol esters and ethers such as the "Spans," "Tweens," "Tritons," "Emulphors," etc. In some cases the molecular structure of these emulsifiers is sufficiently well balanced for them to be used singly with certain types of oils; for example, "Tween 20" with linseed, "Antarox B 100" with kerosene, etc. In other cases, blends of hydrophilic and hydrophobic nonionics are recommended for best results, e.g. a mixture of "Span 60," "Span 80" and "Tween 60" for stearic acid.

In general, the nonionics tend to be more specific in their emulsifying action than soaps. Whereas soaps such as amine oleates can emulsify quite a wide variety of oils, a given nonionic will work well only with one or two types. In general, the more polar or hydrophilic the oil, the more hydrophilic the nonionic emulsifier must be. This generalization has been elaborated into a numerical system by Griffin (9) who has assigned HLB (hydrophile-lipophile balance) values to both emulsifiers and oils on the basis of long series of emulsification tests. Some of these number are given below:

HLB VALUES

Emulsifiers	
Span 85	1.8
Span 80	4.3
Tween 81	10.0
TEA oleate	12.0
Igepal	12.8
Emulphor ELA	13.3
Emulphor ON	15.4
Tween 20	16.7
Sodium Oleate	18.0
Oils	
Cottonseed	7.5
Carbon Tet.	9.0
Paraffin wax	9.0
Mineral oil	10.0
Petrolatum	10.5
Silicone (G.E.)	10.5
Kerosene	12.5
Cetyl alcohol	13.0
Carnauba	14.5
Beeswax	10-16
Stearic acid	17.0

For good emulsification, the emulsifier should have the same HLB value as the oil.

It should be noted, however, that there may be a large number of emulsifiers or blends having approximately equal HLB values, but which do not show the same effectiveness, since the chemical type of emulsifier is also important. In other words, not only is it necessary to work in the correct HLB range, but a vast number of tests must also be run to determine which of the many possible blends in this range is best.

Lime Soap Dispersion

ONE of the most obvious drawbacks of soap is its tendency to form sticky limesoap curds in hard water. Deposition of these curds onto washed surfaces results in such effects as bathtub rings, grey fabrics and dull glassware.

It has long been known that the addition of synthetics to soap solutions will tend to disperse the large flocs of calcium or magnesium soaps into fine particles imparting only a bluish haze to the solution. In this finely dispersed form, the limesoap is considered to be freely rinsible from all surfaces and free from film-forming tendencies. One method of measuring the lime soap dispersing power of a surfactant has been described by Borghetty (10), and consists essentially of visually observing the percentage of surfactant (based on the precipitated soap) necessary for dispersion. Since no comparative data is available in the published literature, the surfactants used in the previous studies were measured by this method, with the results in Table 6.

Recently Schwartz (11) attempted to correlate the amount of lime soap retained by cotton fabrics with the lime soap dispersing power of surfactants added to the soap solution. Surprisingly, the same amount was retained with either good or poor dispersants present. On the other hand, the present author, in some unpublished studies, attempted to find the percent of "Ninol 128" to be added to a scrub soap to prevent film formation on glass slides, and found about 30% required (based on anhydrous soap), which correlates fairly well with the lime soap dispersing power of this particular product.

Since most surfactant solutions are quite low in viscosity or "body," they have often been thickened for either utilitarian or sales reasons. Usually, natural or synthetic

(*Turn to Page 55*)

TABLE 6
Lime Soap Dispersing Power

Surfactant	*Percent Active Needed for Dispersion (Based on Soap)*
Brij 35	3
Triton X100	5
Tween 20	7
Igepon T H.C.	7
Arctic Syntex M	7
Sterox CD	7
Ninol 128	22
Miranol HM	35
Duponol WA	35
Ultrawet K	45
Aerosol OT	45
Monosulph	50
Nekal BX H.C.	Over 70
Onyx BTC	Over 70
Tergitol 4	Over 70
Coconut Soap	Over 70

Cleansers and Dermatitis

Formulations for skin cleansers and detergents for other purposes should take into account the relative skin irritant properties of chemicals in cleansers; degree and length of skin contact.

By Louis Schwartz, M.D.*

THERE is no gainsaying the fact that a clean skin is desirable for aesthetic purposes, for prophylaxis against infections and it is even curative for certain diseases. The beneficial effects of cleanliness are so well recognized that I will not discuss them.

In order to achieve cleanliness we must use cleansers. But exposing the skin too often, or too long to the action of even mild cleansers, let alone harsh or strong cleansers, can be harmful. Too much exposure to cleansers removes from the skin the natural protective acid mantle, and if the skin glands do not quickly regenerate it, the unprotected skin is apt to dry, fissure and become vulnerable to external irritants. Especially is this likely to occur in older people whose skin glands are no longer as active as they once were.

My experience tends to show that there has been an increase in hand eczemas among housewives in the past few years. Whether this is due to the lack of domestics because of higher wages, or to the use of powerful cleansing and washing compounds, has not been determined. I am inclined to think the latter is the chief cause.

We now have on the market for dishwashing, compounds consisting of soap, soda ash, trisodium phosphate, borax and other so called builders.

For clothes washing, there are such anionics as "Nacconol," "Santomerse," "Duponols," "Aerosol" and others to which are added diluents such as sodium sulphate or sodium chloride. These cleansers have the advantage over soap in that they work in hard water, are not alkaline and leave no scum. To some anionic synthetic detergents there may be added soda ash, sodium sulfate or sodium bicarbonate. Soaps may also be incorporated into the formulae.

The non-ionics such as the "Tweens," "Spans," "Igepon," "Lamepon," "Maypon," etc., are being used as skin cleansers, shampoos and other cosmetics.

The cationics are used mostly as antiseptic after rinses for dishes or even clothes.

The sulphonated oils have long been used in the dyeing industry. Turkey red oil has been well known for many years. However, it was in 1939 that it occurred to me that it might well be used as a skin cleanser for soap sensitive people. Since then there have been on the market many kinds of sulphonated oil skin cleansers. Some well known ones are "Sulpho-hand Cleaner"; "Acidulate"; "pH 6"; "Detergol," etc.

In addition to the above there have appeared on the market so called waterless cleansers which consist essentially of a soap, usually of the triethanolamine oleate type; a solvent, such as deodorized kerosene, a glycol and sufficient water to make a soft cream.

In some instances an anionic detergent and solvents other than petroleum derivatives, and a wax may be added to vary the formula. The only excuse for these waterless cleansers is the lack of washing facilities. All these cleansers have a direct action on the skin in addition to removing foreign soil from it.

Detergency Factors

CLEANSERS depend on several properties for their detergent action: 1. The ability to emulsify insoluble matter and thus enable it to be flushed away. They do this by virtue of a molecular structure, one end of which is hydrophilic and the other oleophilic. 2. The ability to lower surface activity and wet foreign matter and thus loosen its hold on the surface; 3. The ability to penetrate into cracks and openings which are not easily entered by water.

The general properties of cleansers are not selective for soil on the skin, but apply to the natural epithelial covering of the skin and the natural oils and waxes which constitute the protective acid mantle of the skin and hair. This should be considered in the formulation of detergents.

Before we consider the action of cleansers on the skin itself, outside of removing extraneous soil, let us discuss the anatomy and physiology of the external layers of the skin and the function of the secretions of the skin.

The skin is divided anatomically into (1) the epidermis, (2) the cutis, and (3) the subcutaneous tissue.

The epidermis is the external layer or surface of the skin. It is

* Before the 38th annual meeting C.S.M.A., Washington, Dec. 3, 1951.

marked by ridges, furrows and openings.

The epidermis is subdivided anatomically into four layers: (a) the *Stratum corneum,* or the outermost layer, composed of dead epithelial cells. These consist of keratin and being loosely attached, are cast off constantly; (b) Below this is the *stratum lucidum,* a thin layer of cells in the initial stage of keratinization; (c) Beneath this is the *stratum granulosum,* consisting of several layers of diamond shaped cells filled with keratohyalin matter with gelatinous and cellular substance between; (d) Under this is the *stratum mucosum* consisting of filled living cells extending into the cutis with finger like projections. The *stratum mucosum* itself can be divided into the prickle cell layers which are diamond shaped living cells with basophilic nuclei and the basal cell layer bordering directly on the cutis. The basal cell layer contains some highly specialized dendritic cells concerned with the formation of melanin, the pigment of the skin. The glands of the skin are situated in the cutis but discharge their secretions through ducts opening on the surface of the skin.

There are three kinds of skin glands: (1) Those that secrete sweat and open directly on the surface; (2) those that secrete a wax like substance called sebum, which is discharged along side the hair shafts in the hair follicles; and (3) those that secrete the so-called sexual scent. These latter are located on the genitalia, anus, nipple and occasionally on the lips.

Action of Cleansers

CLEANSERS exert their action mostly on the external keratin layer but may get down to the *stratum lucidum* if the keratin layer is thin or damaged or if the action of the cleanser is prolonged. Rarely do they get below this on contact with the skin. This may happen if the skin is abraded with a harsh brush or scrubber in the cleanser, or in the case of a diseased eczematous skin.

Soaps are the oldest detergents. The skin has been more or less inured to them and a pure soap is well tolerated by most people. However, soaps not only remove soil from the skin, but also act on the skin and its secretions. This action has been studied. The alkaline soap solution tends to swell, soften, loosen and dissolve the keratin layers. In addition they remove from the skin the natural oil, fats and waxes which constitute the protective acid mantle, thus they dry, thin and shrivel the skin. Because of this the prolonged action of soap may result in dermatitis especially in persons who have thin, dry skins. Besides, some people are allergic to alkalis and others to certain fatty acids and soaps made from them. Certain soaps have been found to irritate the skin more than others. Potassium soaps more so than sodium soaps. Coconut oil soaps and soaps made from low fatty acids are also more irritating than soaps made from tallow or pressed vegetable oils. Soaps made from "foots" are more irritating than those made from pressed oils.

There are many chemicals added to soap for various purposes. The alkali soap builders, soda ash, trisodium phosphate, borax, etc., add to the irritant properties of soap. While soaps themselves have some antiseptic properties and rosin soaps, naphthenic soaps and soaps made from fatty acids with odd number of carbon atoms, are said to have fairly strong antiseptic properties, nevertheless, other more powerful antiseptics are also added to soaps. Hexachlorophene, phenols, cresols, "Chloramine T.", Azochloramide and polysulfides, are some of the antiseptics added to soaps and all of them may add to its primary irritant or allergenic action.

Recently a combination of a cleanser with iodine has come on the market which has been found to increase the antiseptic properties without adding to its irritant action. Some of the antiseptic soaps are also deodorant soaps because the antiseptic prevents the growth of putrifactive organisms on the skin and thus prevents decomposition of the perspiration, the products of which cause much of the offensive odor.

Certain substances are added to soaps to lessen the defatting and irritant action. Lanolin, cholesterol, lecithin, egg albumin and protein hydrolyzates are some of these substances. While the emolient action of these fats and waxes in soaps have been questioned, in my opinion they act to prevent defatting and drying of the skin and their acceptance by the public for many years tends to prove this.

The action of the newer synthetic detergents on the skin has not been studied as much as that of soap. Synthetics tend to wet the skin, swell and remove the cells of the keratin layer, and remove the natural fatty mantle of the skin as much or even more so than soaps. However, they can be had in neutral and even acid solutions and thus alkali sensitive subjects may tolerate them when they cannot tolerate soap.

The action on the skin of the anionic synthetic detergents cannot be grouped because some are milder than others. The action on the skin of each one needs more study.

The action on the skin of the non-ionic detergents also requires more study. In our experience so far they seem to be less irritant and allergenic than the anionics. Soaps, anionics and non-ionics can be used together in cleansing formulations.

The cationics or quaternary ammonium compounds have antiseptic and fungicidal properties and are used to sterilize dishes, laundry, instruments and as skin antiseptics.

Their detergent properties as a group are not as good as the anionics, but there are exceptions. Some of them are highly allergenic, while others are no more so than soaps and the anionics. They are not miscible with the anionics. The action of the cationics on the skin also needs much more study.

The sulphonated oils have been used as skin cleansers since 1939 when their industrial use was advocated for those who are soap sensitive. Since then they have been used where soap is contra-indicated as in housewives eczema. They sting on application to inflamed skin but are tolerated better than soaps. They do not foam as well as soaps.

The fatty vegetable oils such as castor oil, corn oil and olive oil are best for sulphonating as skin cleansers

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Automatic Manufacture of Liquid Hand Soap

By R. J. Ballantine and W. S. Jessop*

U. S. Sanitary Specialties Corp.

PERHAPS "automatic" is not quite the right word to describe the process discussed; maybe "constant flow" would be more appropriate. The subject is not so much technical as technological in that a method of manufacture and not the actual manufacturing of liquid soap will be described.

A certain portion of this method was imposed upon us by physical conditions. Yet even here we were able to adapt these physical conditions to our own requirements This preface is made because what we have been able to do does not necessarily mean that anyone else could also do in toto unless approximately the same conditions were encouraged. This came about in 1948 when our old building which, incidentally, had become inadequate, was condemned by the Chicago City Council for road widening purposes. Therefore, we had to find a new location. Actually for some time previous we had been looking and found suitable premises hard to discover for a number of reasons not material here. Finally we hit on our present location, which was then occupied by a wholesale grocer operating its own bakery. It was a building or rather two connecting buildings of four and six stories each. The bakery section was on the top three floors of the six story building, which was to a certain extent broken into half floors; these we have converted into our soap kitchen. If we had been building ourselves this bakery section could not have been more useful for our soap kitchen, although surely we would not had it designed quite the same way. However where the dough mixing and flour sifting operations had been carried on in a well five and one half floors deep made an ideal set up for our kettles. The kettles were placed directly on the floor of this well and the gallery made a most suitable vantage point for the soapmakers. The weighing and measuring tanks on the sixth floor could then empty by gravity into the kettles. The dough raising room, hermetically and double sealed for temperature control, made an ideal tank farm for our vegetable oils, thus obviating much heating. This room, also on the fifth and one half floor level with a low ceiling above enabled us to set up our laboratories in what was once a large washroom. Again, because of the use of half floor levels, on the fourth floor in the section under the kettles and tank farm we had an extra high ceiling and so could place cooling tanks filled by gravity from the kettles, right up at the ceiling of the fourth floor. These tanks in turn could fill the refrigerating tank by gravity.

Actually for our present purpose the second and third floors are unnecessary for the soap making operation. Presently pipes just pass through them. Four floors would have been enough to take the maximum advantage of gravity flow. However, we have hopes the extra third floor will eventually prove useful if we ever go over to bottling or canning operations wherein we could bypass the main bulk storage and draw off enough soap for the purpose.

The raw materials used in making our soaps arrive in tank cars at our railroad siding which runs into our building between first and second floors. This serves a triple purpose. First, it affords protection for the workers from the weather; secondly, it is an economy in melting the contents of the car. Thirdly, it facilitates emptying the cars by gravity, as all receiving tanks are placed in the basement directly under the tracks.

A steam line has been run from our high pressure boiler to the railroad siding with outlets so spaced as to permit heating three cars simultaneously.

When a car of oil is received a flexible pipe is connected between one of these outlets and the steam coils of the car. The steam is turned on gradually and left on until the contents of the car are melted. Samples are withdrawn and sent to the laboratory for testing.

While the oil is melting, a flexible stainless steel pipe is connected between the car and a lithcoated pipe which runs from the railroad siding to the receiving tank, directly under the tracks. When the oil has been melted, the outlet valve on the car is opened and the oil runs by gravity into the receiving tank, from which it is pumped by a stainless steel rotary pump through steel piping, the interior of which has been lithcoated to prevent contamination of the oils, to storage tanks on the fifth floor. This pump is controlled from a panel placed near the storage tanks. Each tank has its own starter button and an automatic electric float switch which shuts off the pump when the tank is full. All tank interiors are lithcoated and are heated on the outside with steam coils. The coils are placed outside to prevent localized overheating of the oil thus

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*Paper presented at 38th annual meeting C.S.M.A., Washington, D. C., Dec. 2.

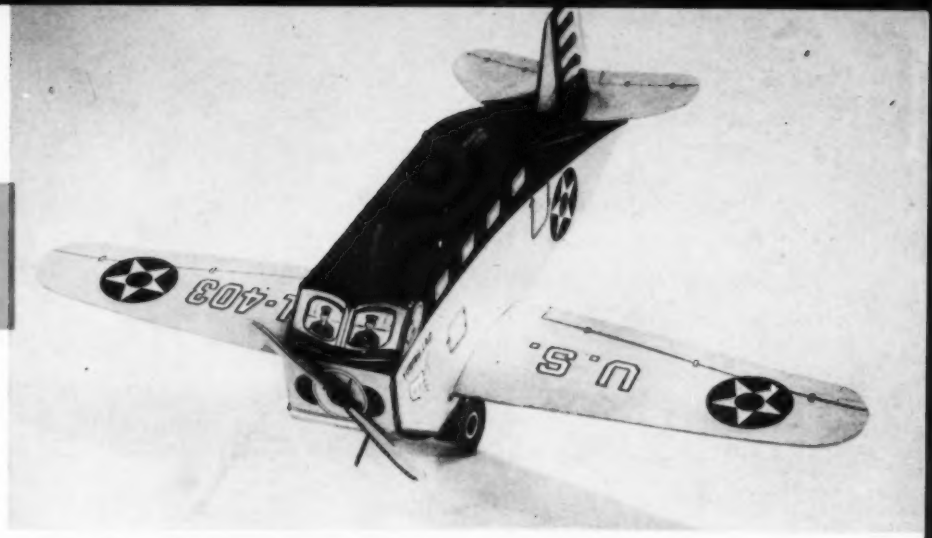
What's

A recently introduced soap novelty package for children is "The Jeep" by Helene Pessl, Inc., New York. The colorful replica of the real thing contains three hand painted castile soap G.I's and retails for $1.00.

New "Cleanse-Ayer" liquid cleanser announced recently by Harriet Hubbard Ayer, a division of Lever Brothers Co., New York, comes in a plastic bottle. It features gold lettering and cap to match. In squeezable plastic bottle, six-ounces of "Cleanser-Ayer" come to retail for $1.50 plus tax.

World of Beauty hand lotion and soap, a new 1951 gift offering of Max Factor, Hollywood, come packaged in feminine pink and rose metallic foil. The ensemble includes World of Beauty hand lotion in modern sphere dispenser and two cakes of new Max Factor French milled soap. Retails for $1.90, plus tax on lotion only.

s New?



Another Helene Pessl, Inc., New York, novelty, is the airplane shampoo package. Model plane with moveable props and wings serves as package for six ounce bottle of "Young Lad Shampoo." The item retails for $1.00.

New "Phlo" neutral skin protector made by Chemical Specialties, Inc., Springfield, Mass. The product is smooth white cream with low pH and non-irritating characteristics. It is offered as protectant against common skin irritants. Packaged in hand personal-size tube.

Right: New "Process 33" paint brush cleaner and preservative made by G. N. Coughlan Co., West Orange, N. J. Comes in pints, quarts and gallon sizes, listing for 59 cents, 98 cents and $3.25, respectively.

New package for "Noctil" compound for automatic, electric dishwashers, announced recently by Rumford Co., Rumford, R. I. Package features new "Seal Spout" built-in pouring spout.

Some variables of mixed fatty acids which affect clarity and viscosity of

POTASH LIQUID SOAP

THE use of fats in the manufacture of soap goes back hundreds of years. As the years passed specific uses for special soaps became more and more pronounced, so that today a long list of specialty soaps, too numerous to mention, are required for various end uses.

The introduction of synthetic detergents with controlled chemical composition has resulted in consumer demand for specification "tailor made" products which have become a problem to the soap maker. This trend toward guaranteed specifications has given the soap maker many problems, and in particular, the small soaper who, for obvious reasons, has limited facilities for research and development.

To attempt to cover the whole field of detergency manufacture and its many ramifications is beyond the scope of this paper. We are limiting our discussion to liquid 20% soya potash soaps, and in particular the effect of some variables in the fatty acids on the finished soaps.

At least two major problems beset the liquid potash soap manufacturers, namely, clarity and viscosity. We do not mean to infer that there are not other problems, but generally speaking some of the other problems can be more or less controlled by the soap maker. Clarity and viscosity, within limits, can be controlled by the liquid soap maker by the use of sequestering agents in the case of clarity and by the use of jelling agents such as the celluloses for added body.

In the larger sense the liquid potash soap manufacturer is dependent on sources of uniform raw material if he is to get uniformity of finished products. That such uniformity of fatty acids is not consistent was responsible for "A Symposium on Fatty Acids" which was presented at the 36th mid year meeting of the Chemical Specialities Manufacturers Association, in Chicago, in June 1950. At this symposium the questions of the liquid soap makers and the answers of the fatty acid producers served to illuminate the problems and the need for some approach to the problems. The questions resolved themselves into:

1—Manufacturing
  A—Storage of fatty acids
    (a) causes of discoloration
    (b) stabilization of color
    (c) heating for withdrawal of small quantities
2—Economics
  A—Low cost
    (a) purchasing individual acids and blending
    (b) purchasing ready made blends
3—Chemical
  A—Clarity and viscosity
    (a) effect of chemical composition
    (b) effect of unsaponifiable matter

While no definite conclusions were reached, the meeting served to stimulate discussions which invariably leads to constructive development.

We have attempetd, up to this point, to show that we do have an undertsanding of some of the problems of the liquid potash soap manufacturer. Because the soap maker is very cost conscious he asks for a very low priced fatty acid. To give him a low priced product with good color, the fatty acid producer has to get a low cost raw material. This material is the acidulated soapstock. These soapstocks are acidulated residues produced from the refining of crude vegetable oils. These soapstocks in themselves would not be too bad, but unfortunately many refiners also use the soapstocks as depositories for their catch basin skimmings and such other miscellaneous fatty materials as may be recovered around a refinery. This results in non-uniformity of many acidulated soapstocks with corresponding wide differences in iodine value as well as other chemical constants.

The soap maker continues to press for lighter and lighter colored fatty acids. This means that the fatty acid producers have to decolorize to a higher degree. The most common method of decolorizing acidulated soapstocks is by simple distillation. In this process the raw feed goes to a distillation tower where the major portion of light colored volatile fatty acids goes overhead, is condensed and collected, and the color bodies, nonvolatiles and some fatty acids are collected from the bottom of the tower.

To produce the lighter color soya acids the consumer demands, the

* Before 38th annual meeting C.S.M.A., Washington, D. C., Dec. 2, 1951.

SOLUTIONS...

By N. V. Feldpush and L. L. Sutker*
Wilson Martin Division of Wilson & Co., Inc.

fatty acid producers have to resort to a modification of a multiple distillation, both tending to increase this percentage of bottoms. Generally speaking, the higher the percentage of bottoms the lower the iodine number and the higher the titer of the resultant distilled fatty acids. The higher titer generally means a higher percentage of solid fatty acids, with corresponding problems of clarity and viscosity for the liquid soya potash soap manufacturer.

Several of our friends in the liquid soap business have raised questions on differences in fatty acids, why some acids produce clear soaps and others do not; why the viscosity fluctuates on soaps made from various fatty acids. We have undertaken to investigate these problems.

The primary object of this paper is to show that variables in composition of fatty acids can affect the clarity and viscosity of 20% liquid potash soap solutions and secondly that unsaponifiables can also be a factor. The term "viscosity" is self explanatory and can be readily measured by various viscosimeters as Brookfield, Oswalt, Stormer, etc. However, the term "clarity" is open to discussion. Since we are essentially fatty acid producers and not soap makers, when we sought to evaluate clarity, we naturally consulted manufacturers of liquid soap to obtain a "norm" or method that would yield comparative and consistent results. Melvin Fuld of Fuld Bros., Baltimore, has been most co-operative and has permitted us to use and reveal his practical method of evaluation of clarity of liquid soap solutions, which is essentially as follows:

"A 20% liquid potash soap is so adjusted that 5 gr. of soap will require 1 ml of N-10 KOH, ± 0.1 ml, for neutralization, which should leave the soap slightly acid. Fill a titer test tube with liquid soap. Stopper the test tube with thermometer so that the temperature can easily be observed. Place the sample in freezing compartment of refrigerator. The sample, if satisfactory, should be liquid and clear at 40-deg. F. If it clouds at 40-deg. F., remove from the refrigerator and allow to stand at room temperature. The soap then should become homogeneous and clear at 55-deg. F. to be passable". Results from this test are tabulated in the paper under the heading of the "Fuld" method. Another liquid soap manufacturer suggested that we determine the clarity of the soaps by using a modification of titer test. The results from this method are tabulated under column of Wilson-Martin in the paper. We have determined the clarity point by both methods "as that temperature at which soap becomes crystallized and transparent or when it becomes milky in appearance". I think that the samples, prepared by Fuld Bros., which can be examined later, will demonstrate clearly what we mean by clarity. To show that such variables as composition of fatty acids and unsaponifiables can affect the clarity and viscosity of 20% liquid potash soap solutions, it was decided to add relatively pure acids to a typical Wilson-Martin soya fatty acid. To make this standard, we composited regular soya fatty acids over a long period, made a 20% liquid potash soap solution from a portion of the fatty acids, then checked the viscosity and clarity.

The preparation of relatively pure fatty acids and unsaponifiables in the laboratory was carried out as follows:

1—*Preparation of relatively pure oleic acid.*

For this purpose we used an edible grade of olive oil. The oil was converted to methyl esters by the standard interesterification reaction. The methyl esters were distilled in the Stedman Fractionating Column to remove palmitic acids. The middle fraction of the C-18 acids was collected and held for later solvent separation of the saturated and unsaturated acids. The methyl esters of the C-18 carbon chain were saponified with potash; glycerol and fatty acids are liberated with sulfuric acid. These fatty acids were dissolved in acetone, transferred to an air bath, and chilled at temperatures sufficiently low to crystallize the saturated acids which were removed by filtration. The fatty acids were crystallized three times at successive low temperatures. The oleic acid was recovered by evaporation of the acetone under vacuum. The oleic acid showed an iodine value of 93.2 and spectrophotometric analysis indicated the following composition.

Saturated Acids .....None

Oleic Acid	96%
Linoleic	4%

2—*Preparation of relatively pure linoleic acid.*

For this purpose we used an edible grade of cottonseed oil which did not show the presence of any linolenic acid by the spectrophotometric method. The oil was converted to methyl esters, distilled, and preparation of the fatty acids was the same as described in the oleic acid procedure above. The fatty acids were dissolved in acetone and several recrystallizations and filtrations at successive low temperatures were used to remove completely all the saturated acids. The oleic acid was crystallized and also removed from the acetone solution by successive recrystallizations and filtration. The linoleic fraction was recovered from the acetone by evaporation under vacuum. The relatively pure linoleic acid had iodine value 172.8 and spectrophotometric analysis confirmed the following composition:

Saturated Acids	None
Oleic Acid	8%
Linoleic	92%

3—*Preparation of relatively pure linolenic acid.*

For this purpose we used a special grade of linseed oil which showed over 45% linolenic acid by spectrophotometric analysis. This oil was converted to methyl esters, distilled and fatty acids prepared as above. Then the fatty acids were dissolved in acetone and several recrystallizations and filtrations were made at successive low temperatures to remove the saturated acids completely. The oleic acid was then crystallized and removed by filtration—this also required several recrystallizations. The linoleic acid was also removed from the mixture by several recrystallizations and filtrations. The resulting relatively pure linolenic acid was recovered by evaporation of acetone and had an iodine value 253.1 The spectrophotometric analysis indicated the following composition:

Saturated Acids	None
Oleic Acid	2%
Linoleic Acid	15%
Linolenic Acid	83%

4—*Preparation of relatively pure palmitic and stearic acid.*

We produce a hydrogenated animal fatty acid with maximum iodine value of 1.0. Some of this material was converted to methyl esters which were distilled in Stedman Column. Middle portions of the C-16 and C-18 groups were segregated for use in our work. The data indicated these saturated acids are relatively pure.

	MP	*IV*
Palmitic	63.6	0.2
Stearic Acid	69.0	0.4

5—*Preparation of unsaponifiable.*

For this purpose high unsaponifiable cuts from soya bean acids were obtained. From this material by usual laboratory extraction methods, we did obtain a relatively pure unsaponifiable material. This unsaponifiable had zero acid number and 135.1 iodine value.

The relatively pure fatty acids and unsaponifiable were added in various proportions to the standard Wilson-Martin soya fatty acid. 20% liquid potash soap solutions were prepared and viscosity and clarity were evaluated.

The percentage of the various additions, titer and iodine value of the fatty acids, clarity and viscosity of the 20% soaps are summarized in Table I.

TABLE I

	FATTY ACIDS		*20% LIQUID POTASH SOAPS*		
			Clarity deg. "F"		
	Titer Deg. C.	*I.V.*	*Wilson-Martin Method*	*Fuld Method*	*C/Stokes Oswalt 77-deg. F.*
Wilson-Martin Soya Fatty Acids	26.3	123.6	46	50	10.84
Addition of Saturated Acids					
I—a 5% Palmitic	30.3	117.4	23	28	3.26
b 5% Stearic	30.4	117.6	41	45	3.71
c 10% Palmitic	32.2	111.2	44	48	10.62
d 10% Stearic	32.8	112.0	50	54	8.46
e 15% Palmitic	34.1	105.1	58	62	18.42
f 15% Stearic	34.5	105.2	59	64	16.11
Addition of Unsaturated Acids					
II—a 10% Oleic	24.1	120.7	24	29	9.51
b 10% Linoleic	24.0	128.5	25	28	7.41
c 10% Linolenic	23.6	136.5	25	29	4.32
d 20% Oleic	23.3	116.8	45-A	49-A	22.64
e 20% Linoleic	23.2	133.1	46-A	50-A	21.51
f 20% Linolenic	22.8	149.1	44-A	47-A	15.35
Addition of Unsaponifiable					
III—a 4%	25.7	124.7	37	41	26.42
b 8%	25.2	124.6	35	39	16.71
c 10%	24.8	124.9	30	34	9.41

Note: "A" means that the soap crystallized solid and transparent at this temperature while other soaps were "milky."

Summary

WE must bear in mind that we are reporting the effect of relatively pure fatty acids on a particular soya product in regard to clarity and viscosity of 20% potash soap solution. We have observed that:—

1—Addition of 5% saturated acids reduces the temperature of the clarity point and it also decreases viscosity.

2—Addition of over 10% saturated acids raises the temperature of the clarity point and it also increases viscosity.

3—Addition of 10% unsaturated acids definitely lowers the temperature of the clarity point and neither oleic nor linoleic shows any unusual effect on the viscosity. However, linolenic definitely shows a lowering of viscosity.

4—Addition of 20% unsaturated acids does not lower the clarity point but produces a crystallized solid material whereas the other clarity points were all in a liquid state. The viscosity definitely shows a

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marked increase by the addition of 20% unsaturated acids.

5—Addition of 4% unsaponifiable lowers the temperature of the clarity point and produces a product that should be commercially acceptable. The viscosity also shows a considerable increase.

6—Addition of over 5% unsaponifiable also lowers the clarity point but the product would not be commercially acceptable because of physical appearance—very cloudy. Also the excessive addition of unsaponifiables decreases the viscosity.

In general the summarized data indicate that the composition of fatty acids and concentration of unsaponifiables in distilled commercial soya fatty acids are definitely variables which do affect the clarity and viscosity of 20% potash soap solutions. It is the object of the fatty acid producer to blend and process raw material so that a fatty acid is available which will produce a soap of uniform clarity and viscosity. A closer co-operation between liquid soap manufacturers and fatty acid producers will lead to better understanding of each other's problems and mutually satisfactory solutions to these problems.

The June 1950 meeting of the C.S.M.A. was a step in the right direction and we sincerely hope this type of symposium will be continued.

We wish to thank Fuld Bros., Inc., of Baltimore, Md., Amalgamated Chemical Co., Philadelphia and R. M. Hollingshead Corporation, Camden, N. J., for their contributions to this paper.

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Industrial Hand Cleaner

A new hand cleaner, "Skin Cote Waterless Hand Cleaner", designed for use by persons whose hands become deeply imbedded with grime and grease, contains a solvent, emollient oils, petrolatum and lanolin. The product liquefies at body temperature, and can be removed from the hands with a paper towel; thus it can be used without water. It has been found effective in removing rubber cements, paints and resins from the hands. The cleaner is a product of The Boyer-Campbell Co., Detroit, Mich.

Coconut Oil Tax Correction

STATING that an editorial in the October issue of SOAP & SANITARY CHEMICALS misrepresented its position in regard to the proposed transfer of the processing tax on coconut oil to an import duty, the National Institute of Oilseed Products, San Francisco, has requested that the error be corrected. In a letter, Howard D. Boone, secretary-treasurer of NIOP, points out that the Institute has been advocating strongly the complete elimination of the coconut oil processing tax. His letter follows:

"We confirm our telegram of date, reading as follows: 'Regret note editorial October issue Soap completely misrepresents our position stop we have been strenuously opposing proposed transfer processing tax to import duty and pressing for complete elimination processing tax. Would appreciate correction in next issue. Writing fully.'

"We had reports that editorial comment had been made misrepresenting our position on HR 1535 now HR 5505, but today received a copy of your October issue—hence, our wire.

"Your comments are apparently directed to Sec. 23 of HR 1535 (now Sec. 22 of HR 5505), both of which we have vigorously protested before the Ways and Means Committee and elsewhere. Under the guise of a Customs Simplification Bill promise is made to convert the processing tax of 3c a lb. on coconut oil to an equivalent duty on copra. This is part of the GATT program to show as far as possible all domestic taxes on imported commodities in their proper light as duties. In the case of copra this not only runs counter to the Philippine Trade Agreement that no duty shall be imposed on Philippine products, but also requires that copra crushing plants in this country pay a duty of $40.00 per ton on copra at the time of importation. This will call for the average mill in this country to put up an additional quarter of a million dollars per month in additional financing.

"This also freezes this duty without benefit of the customary modifications under the Reciprocal Tariff Act. It also precludes drawbacks of duties which obviously is a direct handicap on United States exporters in the world markets. How can we sell say lauric acid in Europe made from copra with $40.00 per ton duty in competition with the rest of the world producing the same acid from duty free copra?

"This brings up the question of why we should have any processing tax or duty at all on copra or coconut oil. Coconut oil has a lauric acid base which is not produced in this country and is so important to our economy that the government is stock-piling this oil. We would suggest that you take an early opportunity of correcting the erroneous impression created by your October editorial."

A letter was also received from John B. Gordon of the Bureau of Raw Materials for American Vegetable Oils and Fats Industries which likewise called attention to the error and outlined some of his testimony before the House Ways and Means Committee. Several other communications were also received along the same line. (See also editorial on Page 38, this issue.)

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Soap Meeting Plans

Tentative program details for the 25th annual convention of the Association of American Soap & Glycerine Producers, Inc., to be held at the Waldorf-Astoria Hotel, New York, Tuesday and Wednesday, Jan. 22 and 23, include a panel discussion dealing with the governmental outlook on raw material supplies for soap, as well as related problems of the industry. Participating will be officials of the National Production Authority, the Office of Price Stabilization, the U. S. Department of Agriculture and the Department of Commerce.

The theme of this year's convention: "Get the Whole Picture" will be carried out in panel discussions and papers on industry problems. In addition, there will be divisional meetings, including those of the Fatty Acid Section, the Glycerine Division and the Specialty Soap and Industrial Divisions. Some of these sessions are to be held concurrently.

Prior to the opening of the soap industry's annual meeting there will be a meeting of the Fatty Acid Section on Monday, January 21. This will be an all day affair, devoted to discussions of technical problems and organizational problems. Among the papers scheduled for this meeting is one by R. F. Brown of Emery Industries, Inc., Cincinnati, dealing with the development and growth of the industry and its importance in the national defense effort. In addition, there will be a panel discussion featuring as participants representatives of consumer industries on what they expect of fatty acids and the requirements of their industries. Statistics and production figures will be covered, too.

TABLE 7
Viscosities of Surfactant Solutions

Surfactant	*Viscosity (cp)*
Ninol 128	150
Miranol HM	14
Sterox CD	8
Ultrawet K	8
Tergitol 4	5
Monosulph	5
Onyx BTC	5
Brij 35	5
Triton X100	5
Coconut Soap	4
Tween 20	4
Duponol WA	4
Nekal BX H.C.	4
Aerosol OT	Gel
Igepon T H.C.	Gel
Arctic Syntex M.	Gel

Note: All solutions 10% active in distilled water.

Surfactants . . .

(*From Page 42*)

gums have been used for this purpose, but as pointed out by the writer in a review of this subject (12), it would be preferable to thicken detergent solutions by the use of detergents, rather than inert gums.

Since no information on viscosities is available in the literature, ten percent solutions of a number of products were made up and measured with a Brookfield viscosimeter. As can be seen from Table 7, a number of products gelled at this concentration, and were not measured. Of those that remained truly fluid, however, only the Ninol amine condensate gave fairly high viscosity. This property has, in fact, been utilized commercially in a number of different products such as floor cleaners and shampoos.

Corrosion

IT has long been known that aqueous solutions of most surfactants permit rusting of steel, thus leading to attack on certain types of processing equipment and necessitating lined drums for shipment of solutions. While it has not been definitely established that the rusting of steel by most surfactant solutions is faster than by water alone, the type of corrosion is often changed — black iron oxides being formed in some cases instead of the familiar red rust.

On the other hand, soap solutions do not corrode steel at all, (probably because of the free fatty acids formed by hydrolysis), and it was, therefore, believed of interest to determine whether any of the synthetics might behave similarly. Since no published data could be found, the surfactants used in the preceding studies were tested qualitatively for rusting by immersing cold-rolled steel strips in 10% solutions of each products, and covering loosely with a watchglass to permit access of air.

Table 8 shows that while most surfactants permit extensive rusting to occur, as expected, there are a few that inhibit corrosion almost completely under these test conditions.

TABLE 8
Corrosiveness of Surfactant Solutions

Surfactant	*Rusting*
Ninol 128	None
Monosulph	None
Coconut Soap	None
Sterox CD	Slight
Miranol HM	Slight
Ultrawet K	Considerable
Triton X100	Considerable
Duponol WA	Considerable
Nekal BX H.C.	Considerable
Onyx BTC	Considerable
Aerosol OT	Considerable
Tween 20	Considerable
Brij 35	Considerable
Igepon T H.C.	Considerable
Arctic Syntex M.	Considerable
(Water)	Considerable

Note: Steel strips in 10% active detergent in Distilled Water for 2 weeks.

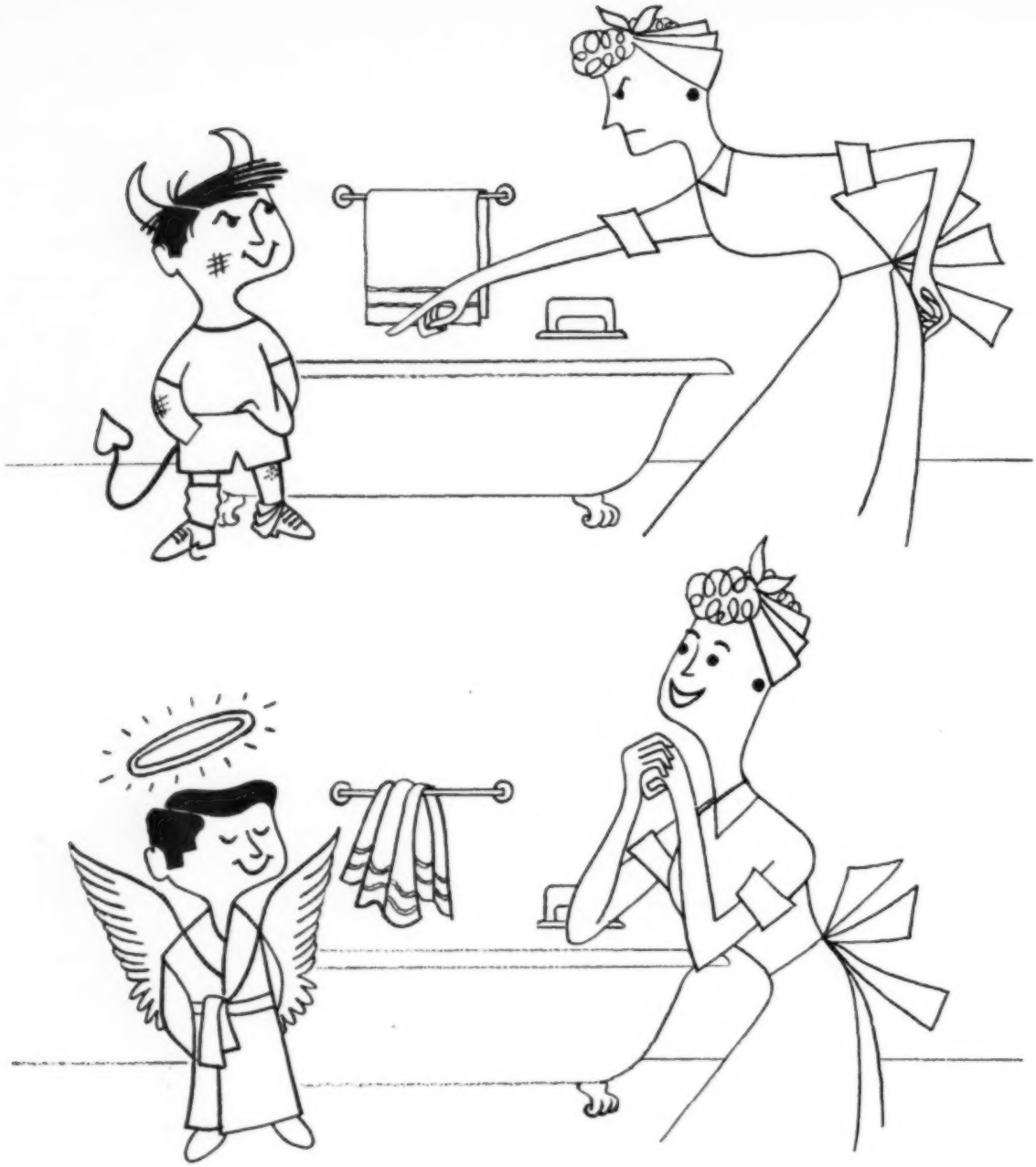
Toxicity

AS a result of the recent "chemicals-in-food" hearings in Washington, considerable interest has been aroused concerning the toxicity of surfactants. In Table 9 the LD50 values found in independent studies by Woodward (13) and Hopper (14) are tabulated. This value is the number of grams of surfactant required to kill half the rats tested (lethal dose for 50% kill). The lower the LD50, the greater the toxicity.

In general, the quaternary compounds seem to be most toxic. Wetters

TABLE 9
Acute Oral Toxicity of Surfactants

Surfactant	*Type*	*LD 50 (g/Kg)* Woodward	Hopper
Zephiran	Alkyl dimethyl benzyl ammonium chloride	0.35	
Roccal	Alkyl dimethyl benzyl ammonium chloride		0.34
Emcol 888	Alkyl naphthalene pyridinium chloride		0.47
CDEA	Cetyl dimethyl ethyl ammonium bromide		0.60
Tergitol 4	Sec. Alcohol sulfate	1.3	
Nacconol NRSF	Alkylaryl sulfonate	1.4	
Tergitol 7	Sec. Alcohol sulfate	1.4	
Aerosol OT	Dioctyl sulfosuccinate	1.5	4.8
Tetrosan	Alkyl dimethyl chlorobenzyl amm. chloride		2.0
Santomerse D	Decyl benzene sulfonate	2.0	2.1
Aresklene 400	Dibutyl phenyl phenol sulfonate		2.2
Emulsept	Ester of colaminoformyl methyl pyridinium chloride		2.5
Duponol C	Sod. Lauryl sulfate	2.7	
Igepal CA	Alkyl phenol polyglycol ether		3.5
Tergitol 08	Sec. Alcohol sulfate	4.0	
Igepon T	Sulfonated methyl oleylamide	4 +	6.6
Nopcogen 14-L	Amine Condensate		9.7
Triton 720	Alkaryl polyglycol sulfonate	12.6	
Soap		16 +	
Tween 20	Sorbitan monolaurate polyglycol ether		25 +
Monosulf.	Sulfonated castor oil		25 +
Nopalcol 6-0	Polyglycol oleate		25 +



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such as the "Aerosols" and "Tergitols" also show some degree of toxicity. Soap and some of the nonionics seem to be relatively non-toxic.

These results must be interpreted with care. As Hopper pointed out, some of the products ("Aerosol OT", "Igepon T") appear more toxic when administered in repeated small doses, while others ("Aresklene 400", "Santomerse D") appear less toxic. Hopper also found that the surfactants showing high toxicity tended to cause eye irritation in rabbits.

A related subject is the matter of skin irritation due to synthetic detergents used in home diswashing compounds. Although numerous patch tests have been made in various laboratories, it is believed that more reliable results can be expected from tests run under actual use conditions. Some work of this kind was carried out in Germany, Peukert (15), for example, examining the hands of subjects after ten consecutive days of washing dishes for three hours per day. He arranged the detergents in the following increasing order of irritation:

Soap, sodium alkyl sulfonate, sodium alkyl benzene sulfonate, fatty alcohol sulfate, alkyl naphthalene sulfonate.

Alkalies increased the irritating action, but carboxymethyl cellulose seemed to diminish it somewhat.

Conclusions

TABULATIONS of the type presented above can probably be of help in selecting a surfactant for a given application. It should be emphasized, however, that care must be exercised in applying these laboratory test results to actual operating systems where many different variables are involved, since unexpected results may often occur. In the final analysis, there is probably no really satisfactory substitute for actual field tests.

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Soaps, Detergents at Hotel Show

CLEANERS, detergents, dishwashing compounds, rug and upholstery cleaners, waxes and polishes, stain removers, glass and metal polishes were among the products featured at the 36th National Hotel Exposition held November 5th to 9th at Grand Central Palace, New York. The exposition is sponsored jointly by the New York State Hotel Association and the Hotel Association of New York City.

In addition to its usual line of detergents, sanitizers, sours and bleaches, Wyandotte Chemicals Corp., Wyandotte, Mich., featured a new mechanical dishwashing compound "Salute" which can be used both for china and plasticware. The compound is a chlorine-type compound with germicidal action. Another product featured in the Wyandotte exhibit was "Clomak", a synthetic compound for laundries and dry cleaners.

Davies-Young Soap Co., Dayton, O. featured a new liquid synthetic detergent "Tidee", designed for hand washing of dishes, glasses, pots and pans. The exhibit consisted of a jet dispenser, attached to a water faucet, feeding a controlled amount of detergent to the dispenser. The jet emits a spray of water and suds, and is designed for economic use of the detergent.

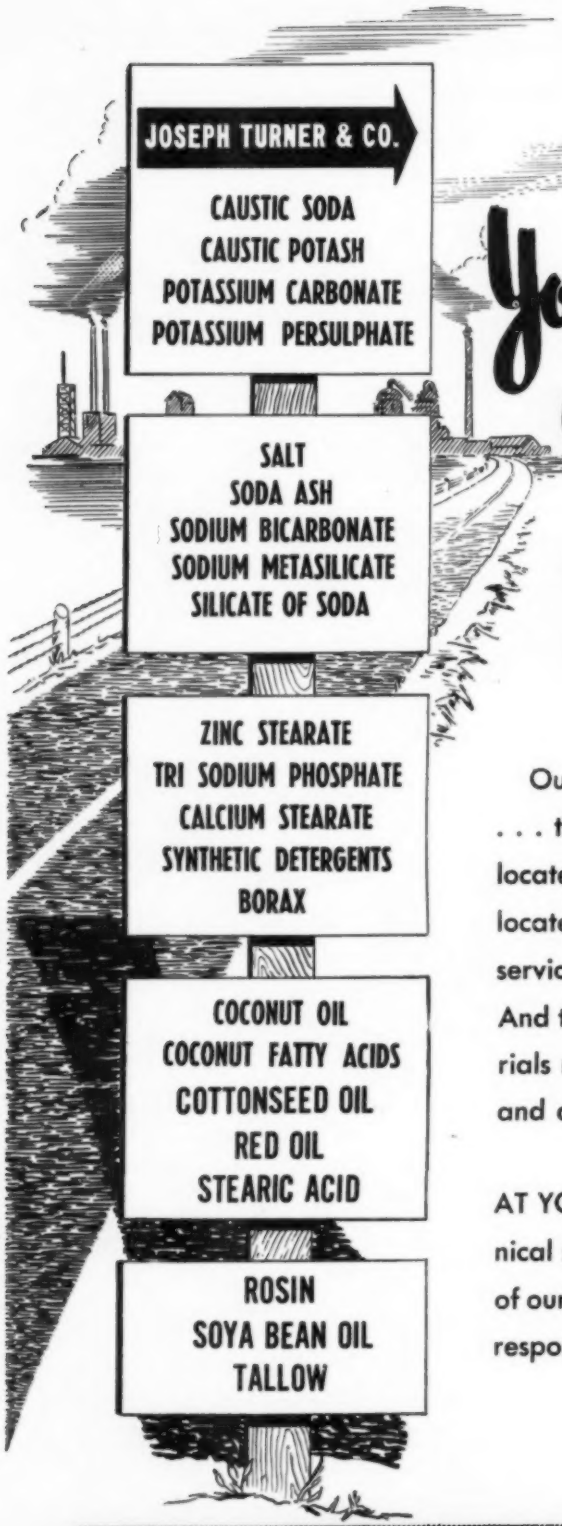
Another new detergent "Stanzo" was featured by the John T. Stanley Co., Inc., New York. The product is a 40 per cent built synthetic, designed for heavy duty laundering and cleaning. Economics Laboratory, Inc., St. Paul, Minn., exhibited a hand dishwashing compound "Tetrox", a plastic bleach "Formula PB-9" which removes stains from plastic ware, and "Silva-Dry" for washing silver.

Rug and upholstery cleaners were exhibited by Neo-Glo Products Co., New York; McCann-Roy, Inc., New York; and System Products Co., Chicago, Ill. Neo-Glo Products is handling "Roloc" a product of Advance Colors, Inc., which dyes and cleans floor coverings in one operation. "Roloc Dye-Foam" comes in 14 colors and is said to hold its colors for from six to 12 months.

In addition to its regular line of soaps, detergents, waxes, polishes, disinfectants, and insecticides, West Disinfecting Co., Long Island City, N. Y., stressed its odorless heavy-duty cleaner "Sanikleen". Procter & Gamble Co., Ivorydale, Ohio, featured its dishwashing and general cleaning compound "Cascade"; and Colgate-Palmolive-Peet Co., Jersey City, N. J., featured its all-purpose cleaner "Ben-Hur".

A liquid antiseptic soap, available in 40 and 20 per cent concentrations was exhibited by Armour & Co., Chicago, Ill. The product is sold as "Formula No. 99", and may be used for surgical scrub-up, or general use, depending on dilution. "Formula No. 99" is available also as a light density powdered product. A liquid shampoo incorporating hexachlorophene is being manufactured by Armour & Co., but is still limited to test markets in the mid-west, and is not available on a national basis.

Other exhibitors at the exposition included Lever Bros. Co., New York; Stallad Products, Inc., Indianapolis, Ind.; John Sexton & Co., Pittsburgh, Pa.; Calgon, Inc., Pittsburgh, Pa.; and the Walter G. Legge Co., Inc., New York.



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TRADE NEWS

Hatcher Joins Stepan

Dr. David B. Hatcher has joined Stepan Chemical Co., Chicago, as general manager, it was announced

DAVID B. HATCHER

recently by A. C. Stepan, Jr., president. Dr. Hatcher was formerly associated with Libbey-Owens-Ford Glass Company's Plaskon Division at Toledo, O., where he was associate director of research until 1950 and sales manager for glues and industrial resins from 1950 until joining Stepan Chemical Co., which manufactures synthetic detergents.

Amer. Soap Name Change

American Soap Co., Inc., Houston, Tex., recently filed articles with the office of the secretary of state, changing its name to American Soap Corp.

Jack A. Wood Dies

Jack A. Wood, 69, for many years vice-president and treasurer of Los Angeles Soap Co., died in Hollywood Hospital, Oct. 22, only 10 days after the death of the firm's president Frank Henry Merrill. Mr. Wood has been in retirement since he was stricken by illness last May. A native of Brighton, England, he came to California in 1906 and joined the soap company as an auditor in 1911. He also was treasurer and a member of the boards of California Rendering Co., White King Soap Co., and Copra Oil and Meal Co. In addition to his widow, Gladys A. Wood, Mr. Wood leaves a son, Jack, jr., and a brother, Harry J. Wood of Los Angeles.

Babbitt Reports Earnings

B. T. Babbitt, Inc., New York and subsidiaries, recently reported a net profit after taxes of $227,343, equal to 22 cents, for the quarter ended Sept. 30. In the comparable period a year ago Babbitt had earnings after taxes of $263,708, equal to 25 cents per common share. Net sales for the '51 third quarter were $4,714,563, against $4,300,157 a year ago.

For the year to Sept. 30, Babbitt reported net sales of $13,633,310, with a net profit of $842,926, equal to 82 cents. The comparable totals in 1950 were $12,225,046, $855,909 and 73 cents, respectively.

The company had adjusted the earnings for the first nine months of 1951 by $63,000 to reflect increased tax rates in accordance with the Revenue Act of 1951.

To Rush Fat Ban Lifting

A bill to repeal the Defense Production Act's ban on imports of fats and oils and certain other items, is scheduled as the second order of business of the United States Senate in January, it was announced recently by Senate Majority Leader McFarland of Arizona. The Senate Banking Committee already has reported the fats and oils bill. The House Banking Committee after recent hearings on the measure postponed further action until January.

Pollack Joins Davies-Young

The appointment of Lou Pollack as sales promotion manager of Davies-Young Soap Co., Dayton, O.,

LOU POLLACK

was announced recently. Previously, he had been president of his own sanitation supplies company in Dayton for some time.

3rd Quarter Soap Sales Up

U. S. sales (in terms of pounds) of non-liquid soaps and total synthetic detergents, as reported by members of the Association of American Soap & Glycerine Producers, Inc., were up about 15 per cent in the third quarter of this year, as compared with the previous three months, it was announced recently. The AASGP reported that gallonage sales of liquid soaps were smaller in the third quarter than in the second quarter. Non-liquid and liquid soap sales (in terms of pounds and gallons, respectively), for the first nine months of the year were under the comparable totals for the 1950 period, but total synthetic detergent sales for the nine-months of 1951 topped those of a year earlier.

Third quarter 1951 sales of non-liquid soaps totaled 466,604,000 pounds, valued at $96,014,000, as

compared with 409,663,000 lbs., valued at $91,671,000 in the second quarter. Total liquid soap sales in the July-September quarter were put at 1,126,000 gallons, worth $1,499,000, as against 1,393,000 gallons, worth $2,001,000 in the second '51 quarter. Synthetic detergent sales of both the liquid and non-liquid varieties in the third quarter of this year were put at 325,265,000 pounds, worth $71,855,000, as against 277,927,000 pounds, valued at $64,846,000 in the second quarter, 1951.

The nine months totals for 1951 were: non-liquid soaps, 1,571,229,000 pounds, worth $340,300,000; solid and liquid synthetic detergents, 936,793,000 pounds, valued at $217,777,000, and liquid soaps, 4,041,000 gallons, at $5,438,000.

M. C. Folzenlogen Dies

Michael Clemmens Folzenlogen, a chemical engineer at the Dallas, Tex., plant of Procter & Gamble Co., Cincinnati, died recently in a Dallas hospital. A native of Cincinnati, he had been with Procter & Gamble since 1913. He had lived in Dallas since 1922, when he was transferred there to help set up the Dallas P&G branch. His survivors include his wife, five sons, two daughters, his mother, two brothers, four sisters and four grandchildren.

Bon Ami Earnings Drop

For the nine months to Sept. 30, last, Bon Ami Co. and subsidiaries, New York, recently reported a net profit of $133,947, equal to $1.42 a class A share, as compared with $192,947, or $2.04 a share for the first nine months of the previous year.

Acquire Ferd Muehlens

John Roosevelt, youngest son of the late President, and his business partner in Lee Pharmacal Co., New York, recently acquired the German cosmetic and toiletries firm of Ferd Muehlens, Inc., New York. The firm was acquired with the sale to the highest bidder of all the outstanding stock of the company by the United States Office of Alien Property Custodian in New York.

Lever Advances Moser

J. P. Moser, formerly manufacturing manager of Lever Brothers Co., New York, was recently advanced

J. P. MOSER

to the post of general manager of the manufacturing division. Two other long-time Lever employees, G. G. Grant and J. W. Flynn were also elevated to new positions. Mr. Grant was named production manager, having previously been western operations manager. He has been with Lever since 1931. J. W. Flynn, formerly eastern operations manager and a Lever employee since 1932, was named associate production manager.

Canada Soap Prices Cut

Retail prices of toilet soap and soap flakes were reduced sharply in Canada recently following price cuts by manufacturers. The day after soap makers announced price reductions on Oct. 29, some chain stores lowered their prices. One giant size box of soap flakes was cut by six cents, and the regular size was reduced three cents. Bath size toilet soap is down from 14 cents each to two for 25 cents.

Reason for the cuts as advanced by the representative of one large soap manufacturing concern is the drop in the prices of soap raw materials, particularly on fats and oils. He said prices had dropped by from seven to eight percent. The reductions were termed seasonal, not a really big fluctuation. No further cuts for some time to come were foreseen.

The executive of a wholesale soap company pointed out that raw materials markets have been easing gradually, starting about the time of the cease-fire talks in Korea. He explained that in a war economy everyone hangs on to fats and oils, but with the war scare easing off, fat prices have been lowered. Another factor for reduced oil and fat prices is the biggest cotton crop in history, with a resultant large output of cottonseed oil. Reduced raw materials prices, with their effect of lower production costs, were savings that were being passed on to consumers.

Soap Fat Use Up

Reported consumption of primary animal and vegetable fats and oils in August was nearly double the July rate, according to figures issued recently by the Bureau of the Census of the U. S. Department of Commerce, Washington, D. C. In August, 124,929,000 pounds of fats and oils were reported consumed for soap, as against 74,982,000 pounds in the previous month. Inedible tallow accounted for 49,196,000 pounds of the August total, as compared with 31,125,000 pounds in July. Grease was the second largest soap fat reported consumed in both months. The August total was 29,319,000 pounds, as against 15,653,000 pounds a month earlier. Refined inedible tallow accounted for 13,835,000 pounds in August and 9,302,000 pounds in July.

Joins Wyandotte Division

Robert J. Polacek has joined the research and development division as a field service representative in the market development department, it was announced recently by Wyandotte Chemicals Corp., Wyandotte, Mich.

Coupons "Ivory Snow"

Latest promotion for "Ivory Snow," made by Procter & Gamble Co., Cincinnati, is a coupon worth 10 cents on each package. The promotion is being featured on "Ivory Snow's" daytime radio program, "Rosemary," and a special package has been designed to call attention to itself on shelves and in displays. The coupons carry no expiration date.

Haag Expands Plant

Expansion of its manufacturing facilities for its line of liquid soaps, cleansers and other sanitary specialties through an addition to its plant was announced recently by Haag Laboratories, Inc., Blue Island, Ill. The new addition to the plant is a one-story unit of brick construction and will provide an additional 2500 square feet of floor space. It will be used for shipping and storage purposes, while that area of the plant formerly devoted to these activities will be turned over to expanded manufacturing facilities.

Antara Changes Name

Antara Products, division of General Dyestuff Corp., New York, changed its name, effective Dec. 1, to Antara Chemicals, it was announced recently. The change of name was brought about to describe more accurately the general product line of General Aniline & Film Corp., sold by Antara, according to John C. Franklin, executive vice-president of General Dyestuff. Antara coordinates and handles the sales and service of all acetylene chemicals, intermediates and allied products made by General Aniline. It was formed in 1950 as a merger between the original Antara Products, then a division of General Aniline and the organic chemicals division of General Dyestuff.

New General Aniline developments in the field of surfactants include an iodinated polyoxyethlene gycol which shows promise as a bactericide.

Harold G. Shelton is manager of Antara Chemicals, Donald M. Martin is advertising manager and Dr. Chapin Stevens is newly appointed head of the technical division, with headquarters in New York. Dr. D. H. Terry is in charge of industrial technical service.

Guernsey Joins Kamen

F. H. Guernsey, formerly head of the industrial sales division of E. F. Drew & Co., New York, recently joined Kamen Soap Products Co., New York, as director of sales. Mr. Guernsey at one time had been connected with Cowles Chemical Co., Cleveland. In his new post he is directing the marketing of the Kamen line

F. H. GUERNSEY

of soaps, synthetic detergents, distilled fatty acids, stearic acid, red oil, hydrogenated oils, sulfonated oils, etc.

Friedman of Polak Retires

Dr. Eugene Friedman, for many years in charge of the midwestern office in Chicago of Polak's Frutal Works, Inc., Middletown, N. Y., retired recently due to poor health and has taken up residence in Miami, Fla. A. H. Michaels, assistant vice-president, who has been with Polak since 1934, has taken over management of the company's Chicago office.

Roman Cleanser Buys Firms

Roman Cleanser Co., Detroit, recently announced the purchase of Noboil Cleanser Co., Atlanta, Ga., and Barton Chemical Co., Griffin, Ga. The Griffin plant is turning out "Roman Cleanser" bleach, which is making its first appearance in the South in the Atlanta market. A sales force of six local men, assisted by experienced Roman salesmen, was established to introduce the product. An intensive advertising campaign, with newspaper advertising comprising the major portion of the budget got under away Nov. 15. John Riccardi, president of the company, and Stephanie Laske, secretary, visited Atlanta following the announcement of the purchase. Roman Cleanser Co. was founded in Detroit in 1919.

F. T. C. Cites Wildroot

Wildroot Co., Buffalo, liquid cream shampoo and hair tonic manufacturer, was charged recently by the Federal Trade Commission with unlawful payments of "push money" and cooperative advertising allowances to chain retail drug stores and some of its other customers. The FTC complaint charged that payments in 1950 totaled $184,000, and were not available in any amount to independent drug stores competing with the chain drug stores in selling Wildroot products.

The practices with which Wildroot is charged in the complaint are alleged violations of section 2 (d) of the Clayton Act, as amended by the Robinson-Patman Act, making it unlawful to pay a customer for promotional services or facilities he furnishes, unless such payment is made available to all competing customers on proportionately equal terms.

A hearing will be held in Buffalo before Trial Examiner J. Earl Cox on Dec. 3.

L. W. Findlay Dies

L. William Findlay, 72, a retired vice-president of Stokes & Smith Co., Philadelphia, died Nov. 7, at his home in Abington, Pa., a Philadelphia suburb. He had been with Stokes & Smith for 40 years. His widow, Marie, and a daughter, Mary, survive.

Controllers Elect Butler

Thomas C. Butler, treasurer of Grand Union Co., New York, was elected recently as chairman of the Controllers Conference Advisory Committee of the National Association of Food Chains. The first of its kind in the food field, the conference has as its objectives the discussion and exchange of ideas and experiences on financial and accounting problems and the study of developments and ways of improving financial methods and accounting operations of NAFC members; to keep pace with modern developments in accounting practices and methods; and to work toward a degree of comparability and efficiency.

P&G Quarter Net Drops

Procter & Gamble Co., Cincinnati, reported a consolidated net profit of $11,772,504 for the three months ended Sept. 30, equal to $1.22 a share of common stock, compared with $14,423,005, or $1.50 a share in the comparable period a year ago. The 1950 figures have been revised for comparative purposes to show the effect of the excess profits tax of 1950, and to reflect the change to the "Lifo" or last-in-first-out basis of inventory pricing, it was said.

In the quarter just reported provision was made for United States and foreign income taxes of $12,687,000 and excessive profits tax of $716,000. In addition, the company has had to provide $421,000 in taxes for the fiscal year ended June 30, last, because the high rates of the new tax law are retroactive to April 1, 1951.

In the three months ended Sept. 30, Procter & Gamble had a profit before taxes of $25,596,504.

Capitol Soap Relocates

Capitol Soap Corp., manufacturers of sweeping compounds, powdered hand soaps, dishwashing compounds, detergents and other chemical specialties, recently moved to a fully equipped, modern new plant at 310 Colfax Ave., Clifton, N. J. A full line of janitor supplies is being manufactured by the firm, according to its president, James Bianco. Production of sweeping compound is being tripled. The firm sells to the jobbing trade only.

Albert E. Mullen Dies

Albert E. Mullen, general manager of American Perfumers Laboratories, a division of Avon Products, Inc., New York, died Oct. 29 in Pelham, N. Y., at the age of 59. He had been associated with Avon Products since 1934.

New Shell Atlanta Office

The opening on November 1 of a new sales office in Atlanta, Ga., was announced recently by L. V. Steck, marketing vice-president of Shell Chemical Corp., New York. M. W. Ellison of the sales staff in New York has been appointed manager of the new sales district. He is a native

M. W. ELLISON

of Montgomery, Ala., and has been with Shell since 1946. A graduate in chemistry of the University of Alabama, Mr. Ellison served with the navy during World War II. Aided by a staff of technically trained salesmen, he will administer Shell Chemical sales activities in the states of Virginia, the Carolinas, Georgia, Florida, Alabama and Tennessee.

Heads Detroit Sales Execs.

John D. Reber, Detroit district sales manager for Procter & Gamble Co., Cincinnati, was elected recently as president of the Detroit Sales Executives Club.

Monsanto to Run Govt. Unit

A letter contract was signed recently by Monsanto Chemical Co., St. Louis, with the Chemical Corps of the Department of the Army for the operation and maintenance of the Corps' chlorine-caustic plant at Muscle Shoals, Ala. The plant currently is being constructed under a contract with the Corps of Engineers by Monsanto and Leonard Construction Co., Chicago, and will produce chlorine by the De Nora mercury cell process which Monsanto has adopted for use in the United States and Canada. J. H. Zwemer of Sheffield, Ala., who has been project manager during construction, is to be plant manager for Monsanto.

Soaps at Laundry Meeting

Soaps and synthetic detergents were exhibited and discussed at the 12th annual convention of the National Association of Institutional Laundry Managers and the concurrent 64th annual convention and exhibit of the American Institute of Laundering held in Chicago recently.

Institutional laundry managers, meeting at the Sheraton Hotel, heard an address on "Soaps vs. Synthetics" by B. E. Marsh of the chemicals and by-products department of Armour & Co., Chicago, also one on "The Newer Textiles" by Dr. George H. Johnson, vice president of the American Institute of Laundering. Time was also arranged for the managers to visit the Chicago soap plant of Swift & Co., followed by a luncheon in the Swift cafeteria.

Features of the program for the American Institute of Laundering meeting at the Stevens included presentation of a report on the 3rd national survey of the laundry market, made by the Institute with cooperation of Procter & Gamble Co., Cincinnati.

Here, too, technical problems involved in the laundering of such new "test tube" fabrics as dynel, orlon, dacron and fiber glass, were discussed by Malcolm Woodard and Lee A. Johnston, of the Institute's research staff at its Joliet, Ill., headquarters.

In exposition hall of the Stevens Hotel nearly 200 manufacturers displayed supplies for the laundry trade, among which were soaps, sours, starches, and bleaches, etc. Exhibitors in the soap and kindred chemical field included the following:

Armour & Co., Chicago; Calgon, Inc., Pittsburgh, Pa.; Colgate-Palmolive-Peet Co., Jersey City, N. J.; Cowles Chemical Co., Cleveland; Davies-Young Soap Co., Dayton, O.; Diamond Alkali Co., Cleveland; Dow Chemical Co., Midland, Mich.; E. I. du Pont de Nemours & Co., Wilmington, Del.; Emery Industries, Inc., Cincinnati; H. Kohnstamm & Co., New York; Mathieson Chemical Corp., Baltimore; Pennsylvania Salt Mfg. Co., Philadelphia, Procter & Gamble Distributing Co., Cincinnati; Standard Chemical Works Co., Columbus, O.; A. L. Wilson Chemical Co., Kearney, N. J.; Allen B. Wrisley Co., Chicago; Wyandotte Chemicals Corp., Wyandotte, Mich. Floor maintenance machines and supplies were also shown by Hild Floor Machine Co., Chicago, and Multi-Clean Products Co., St. Paul, Minn.

When you buy W. C. Hardesty Co., Inc. Fatty Acids, you buy assured satisfaction plus prompt and efficient service—and shipments standardized to the same high quality every time.

RED OIL • WHITE OLEINE • STEARIC ACID
HYDROGENATED FATTY ACIDS • ANIMAL & VEGETABLE FATTY ACIDS
GLYCERINE • STEARINE PITCH

W. C. HARDESTY CO., INC.
41 EAST 42nd STREET, NEW YORK 17, N. Y.

PLANT: DOVER, OHIO • IN CANADA: W. C. Hardesty Co. of Canada, Ltd., Toronto

Diamond Alk. Stock Change

Diamond Alkali Co. recently applied for listing of its stock on the New York stock exchange. The stock is presently sold on the "over the counter" market. If the application is approved it is believed Diamond stock will receive a much wider distribution. The company now has approximately 3,000 stockholders.

C-P-P Earnings Decline

A decline in its net income for the first nine months of the year ended Sept. 30, although sales were higher than in the comparable period, was reported recently by Colgate-Palmolive-Peet Co., Jersey City, N. J. A net income of $3,748,653, equal to $1.63 per common share on sales of $173,063,030 was reported for the nine months to Sept. 30, last, as compared with an income of $10,880,017 on sales of $157,585,693 and earnings of $5.28 in the nine months of 1950.

For the three months ended Sept. 30, the company had a net income of $284,000 or eight cents a common share, as compared with $5,261,000 or $2.58 a share last year. Earnings of the 1951 quarter are after a charge of $2,500,000 to cover the total loss incurred in flood damages to the Kansas City plant.

Domestic sales for the third quarter were $52,158,000, as against $62,502,000 in 1950. World-wide sales were $82,194,000, compared with $90,414,000 a year earlier.

Colgate - Palmolive - Peet Co. was presented recently with a bronze "Oscar of Industry" as having the best financial report in the 11th annual survey conducted by Weston Smith of *Financial World*. Colgate's award was in the drug store products division of the contest. Another winner was Commercial Solvents Corp., New York, which placed first in the volume chemical field.

Lever Advertising Changes

Expansion of its advertising media department with separate managers for print and radio-television was announced recently by James A. Barnett, advertising and promotion vice-president of Lever Brothers Co., New York. At the same time Mr. Barnett announced that Anton W. Bondy had been advanced from assistant media manager to media manager-print and Stanley H. Pulver has been appointed as media manager-radio-TV. Mr. Pulver joined Lever Brothers after six years as media buyer for a New York advertising agency.

STANLEY PULVER

Kessler Names Agents

Kessler Chemical Co., Philadelphia recently announced the appointment of several sales representatives. New representatives and their territories are Daniel G. Herely Co., Chicago; Truesdale Co., Boston, for the New England area, and Plastex Products Co., Marietta, Ga., for the South.

Raduns to Florida Firm

Roger C. Raduns, for the past six years supervisor of laundry sales and service for Diamond Alkali Co., Cleveland, recently joined Industrial Chemical & Supply Co., Tampa, Fla. He becomes a co-owner with Walter E. Schlichte of the firm, which represents a number of manufacturers as a distributor in central Florida of soaps, detergents, sours, blues and starches for family and institutional laundries and linen supply plants.

At the same time it was announced by Mr. Schlichte that the firm is in the process of expanding its warehouse facilities and enlarging its product lines.

Detergent for Fire Hazard

The use of an alkyl aryl sulfate type synthetic detergent to neutralize an estimated 30,000 gallons of fuel oil floating on Milwaukee streams that have already caused a $40-50,000 fire and continued to cause a serious fire hazard was tried in that city last month. It was hoped that the ton of synthetic detergent would emulsify the oil, breaking it down into droplets that will not cling or burn. If the detergent performs satisfactorily its further use in the river is expected.

The oil apparently was coming from storage tanks that did not have dikes around them. It seeped into storm sewers and thence into streams and creeks leading into the Milwaukee River.

The detergent was to have been in powder form, dispensed from an outboard motor boat with the propeller high in the water to cause the detergent to be churned into the water.

Expands Spry Territory

Walter P. Spry, New York state sales representative for Magnus, Mabee & Reynard, Inc., New York, was recently appointed to represent the firm in eastern Canada as well as his present territory. He will cover Montreal, Quebec City, Ottawa, Toronto and other cities in that vicinity. Mr. Spry has been with the firm for the past five years.

Ungerer Trophy to Bush

W. A. Bush, secretary of Ungerer & Co., New York, was the winner of the president's trophy at the annual golf tournament of the company held recently at Essex Fells (N. J.) Country Club. During luncheon, Kenneth G. Voorhees, president of Ungerer, presented Mr. Bush with a sterling silver "Revere Cup," which remains in Mr. Bush's possession for one year. This is the second time Mr. Bush has won the trophy, which must be won in three consecutive years for permanent possession. Roger Fardin, maintenance manager at the company's plant in Totowa, N. J., was runner-up.

Background for better detergents

More than a billion pounds of household and industrial cleaning compounds have been produced with synthetic detergent materials made by Oronite.

This broad acceptance is proof of the high regard which leading compounders, processors and end-users hold for Oronite products.

Large-scale production facilities and experience provide Oronite the background for better detergents and make Oronite a most important source of supply.

ORONITE CHEMICAL COMPANY

THE NAME TO WATCH IN CHEMICALS

A partial list of other Oronite Chemicals

NOTICE
Some of the following are currently in short supply.

Detergent Alkane
Detergent Slurry
Detergent D-40
Detergent D-60
Wetting Agents
Lubricating Oil Additives
Cresylic Acids
Gas Odorants
Polybutenes
Sodium Sulfonates
Purified Sulfonate
Naphthenic Acids
Phthalic Anhydride
Ortho, Para Xylenes
Xylol
Aliphatic Acid
Hydroformer Catalyst

THESE EXTREMELY VERSATILE SYNTHETIC DETERGENTS FIND A WIDE VARIETY OF USES THROUGHOUT INDUSTRY

Four Examples:

1. FOOD AND VEGETABLE PROCESSING
A tremendous aid in washing, peeling and processing fruits and vegetables before canning or freezing. Improves their marketability and aids in the removal of dirt, insecticide and fertilizer residue.

2. UPHOLSTERING AND RUG CLEANING
These detergent products find widespread use in plant or "on-location" cleaning of rugs, carpets and upholstering. Excellent foaming qualities, easy rinsing and high efficiency in cleaning greasy type soil make them ideal for this purpose. Use them straight or in special compounds depending upon type of application.

3. CLEANING AND WASHING COMPOUNDS
Oronite supplies tremendous quantities of synthetic detergent materials to processors and compounders of packaged cleaners for all household and industrial uses.

4. TRANSPORTATION EQUIPMENT WASHING
Because of its fast action, quick rinsability and high detergency, Oronite D-40, either alone or in compounds, cuts cleaning and maintenance costs on trucks, trains, busses, passenger cars and other types of rolling stock.

ORONITE CHEMICAL COMPANY

38 Sansome Street, San Francisco 4, Calif. — Standard Oil Bldg., Los Angeles 15, Calif.
30 Rockefeller Plaza, New York 20, N. Y. — 600 S. Michigan Avenue, Chicago 5, Ill.
Mercantile Securities Bldg., Dallas 1, Texas

Feature Article on George H. Packwood

GEORGE HORATIO PACKWOOD, president of Packwood Mfg. Co., St. Louis hand cleanser firm, was the subject of a lengthy feature article in a recent issue of the *Everyday Magazine* section of the *St. Louis Post-Dispatch*. The article relates how Mr. Packwood, originally an engineer, having been graduated from Alabama Polytechnic Institute in 1910 with a degree in electrical and mechanical engineering, decided he wanted to go into the soap business. While still working as an engineer in St. Louis, he studied at night, experimenting with different soap formulas on alternate nights.

Eventually, around the year 1928, he took in some stockholders, Mr. Packwood recalls, and when that arrangement failed to work out he decided to go to New York and interest some of the oil companies and other large manufacturers in his newly developed "Formula Number One" hand cleanser. At American Telephone & Telegraph Company he made some progress, but was told that if the firm did furnish its employees with soap, which it did not, the soap would have to come in a dispenser. They suggested he supply a dispenser. Mr. Packwood drew the plans for one and it was accepted. Borrowing the money needed to have a sample made, he submitted the unit which AT&T liked. Later other firms began to buy the Packwood dispenser and by 1949 the firm had sold a million and half dollars worth of cleansers. Last year the company's business came to two million dollars with predictions for 1952 volume indicated at about three million dollars. Other interesting information turned up in the Packwood article is the fact that only Packwood and plant employees are permitted in the plant, the operations of which are said to be secret. Not even the sales manager is permitted in the plant.

Purex Profit Rises

Purex Corp., So. Gate, Calif., recently reported a net income of $902,800 for the year ended June 30, after provision for Federal taxes of $1,420,000, equal to $1.81 a share on 500,000 capital shares outstanding. In the comparable 1950 period the company has a net income of $827,193, or $2.07 a share on 400,000 shares, after provision of $508,000 for federal taxes. The company changed the fiscal year end to June 30, from October 21, so the 1950 figures represent the fiscal period of eight months ended June 30, 1950, and the last four months of the fiscal year ended Oct. 31, 1949. Net sales for the 1951 period totaled $19,476,366, as against $14,558,416 in 1950.

The company's position in the synthetic detergent field was improved during the year through an increased volume of sales in established markets, as well as through entry into new sales territories according to Adrien C. Pelletier, president. He said that four new markets: Chicago, Grand Rapids, Detroit and Toledo have been opened to the company's detergent, "Trend," while three additional new markets: Columbus, O.; South Bend and Fort Wayne, Ind.; Cleveland, Youngstown and Akron, O., were scheduled to be introduced to the product during the remainder of the year.

First Monthly Contest

First Machinery Corp., New York, is now conducting a contest featuring $1,500 in prize money and open to any person connected with the chemical and allied industries. The contest, which began last month and ends in October, 1952, consists of awards of $100 each month to the person submitting the best statement on the subject: "My Happiest Experience with Used Equipment." In addition, a grand prize of $300 will be awarded for what is considered the best statement of the year. Judges are Dr. Walter J. Murphy, editor of American Chemical Society publications; T. R. Olive of the editorial staff of McGraw-Hill publications and Fred R. Firstenberg, president of First Machinery Corp. All entries are to be sent to Contest Editor, First Machinery Corp., 157 Hudson St., New York 13, N. Y.

Bulletin on Detergents

"The perfect detergent is, of course, only a dream," says Lucille J. Williamson, author of a bulletin, entitled "Soaps and Other Detergents," issued by the New York State College of Home Economics, a unit of Cornell University, Ithaca, N. Y. The publication, it is explained, was prepared to answer homemakers' questions, such as "Shall I use soap or a non-soap detergent?," "If I use a non-soap detergent, what one shall it be?," or "How shall I find the detergent I need?"

"Soap is an excellent detergent for household tasks, but a non-soap may be preferable," (for several listed reasons) the author points out. "Fortunately for consumers," she also says, "almost all detergents are sold by companies with established names." However, she also declares that "household supplies sometimes reach the home through less dependable channels. There are likely to be a few promoters who are not interested in repeat sales and who are not concerned with the quality of the work nor with the danger to user and materials. You need to be on guard when you do not recognize the name of the one who sells it. . . . Sometimes the claims made for these products are fantastic.

"In considering sales claims, you need to realize the danger from a well-meaning, poorly trained individual who markets a product that is good for one use, but is hazardous for the purpose for which it is being sold. His product may clean well, but may cause damage when used as directed. The seller is often unaware of this danger. Testing and study will help you guard against these hazards."

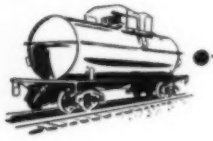
The fourteen page bulletin also lists suggestions on correct use of detergents. Housewives are assured that if they read the label, follow directions and use the correct procedures in rubbing, rinsing and wringing, they'll come out all right.

The + in Hooker Caustic Soda *is SERVICE*

When you buy a basic chemical like caustic soda, *service* is an important factor in determining your source of supply. As a basic producer, Hooker offers you these advantages:

1. Caustic soda of high purity, low in iron and sulfates . . .

and



2. Modern equipment for loading and shipping to maintain that purity from our plant to the user's plant . . .

+

An experienced technical service staff to help you use and handle caustic soda.

To you this means minimum processing costs through elimination of variations in quality from shipment to shipment. To make sure that Hooker Caustic reaches you as pure as it leaves us, we coat Hooker tank cars with a special protective lining. Each car is completely insulated and equipped with a heating device to make handling and unloading uniform the year around.

\+ You can reduce processing costs further through the safe and efficient handling of caustic soda. This is where the specialized knowledge of our technical service staff can help you.

For analyses and specifications on Hooker Caustic Soda, write on your business letterhead for Technical Data Sheet No. 735.

Hooker Caustic Soda is sold in solid, flake or liquid form. Liquid is supplied in 50% and 73% concentration.

From the Salt of the Earth

HOOKER ELECTROCHEMICAL COMPANY

BUFFALO AVENUE & UNION STREET, NIAGARA FALLS, N. Y.

NEW YORK, N. Y. • WILMINGTON, CALIF. • TACOMA, WASH.

HOOKER CHEMICALS®

10-1846

SODIUM SULFIDE • SODIUM SULFHYDRATE • SODIUM BENZOATE • CHLORINE • MURIATIC ACID • PARADICHLOROBENZENE • MONOCHLOROBENZENE

TGA Section Program

Papers dealing with germicidal agents in toilet goods and the effect of chlorophyll toothpastes on breath odors will be presented at the winter meeting of the scientific section of the Toilet Goods Assn. to be held Dec. 5, at the Waldorf-Astoria Hotel, New York. The program for the meeting also includes papers dealing with certified colors in cosmetics, and two presentations on odors and olfaction.

The complete program follows:

Morning Session: 9:30 *A.M.*

"Certified Azo Colors in Cosmetics", by Samuel Zuckerman, Ph.D., Technical Direction, Brooklyn Div. H. Kohnstamm & Co., Inc.; "The Cosmetic Industry's Stake in Pharmaceutical Education", by Veronica Lucey Conley, Corresponding Secretary, Committe on Cosmetics, American Medical Association; "Efficacy of Hexachlorophene in Toilet Goods Preparations", by H. J. Spoor, Ph.D., M.D. and E. F. Traub, M.D., Department of Dermatology, New York Medical College, "A Study of the Immediate Effects of Brushing the Teeth With a Chlorophyll Toothpaste on Odors Originating in the Mouth", by R. E. Tenney, Procter & Gamble.

Luncheon-Starlight Roof, 12:30 *P.M.*
Afternoon Session: 2:00 *P.M.*

"Reliability of Women's Ratings of Perfume and Factors Affecting Such Ratings", by Bernice M. Wenzel, Barnard College, Columbia University; "The Evaluation of Odors and Flavors by the Panel Technique", by Kurt S. Konigsbacher and William H. Danker, Evans Research and Development Corp.; "The Catalyst Theory of Olfaction", by Jerome Alexander, consulting chemist and chemical engineer.

SAACI Changes By-Laws

Changes in its constitution and by-laws were voted at the annual meeting of the Salesmen's Association of the American Chemical Industry, held Oct. 30, at the Hotel Roosevelt, New York. Changes voted cover qualifications for membership; methods of electing officers and insertion of a clause permitting representatives of advertising agencies in the chemical industry to become members.

A nominating committee composed of the following was chosen: William J. Weed of Niagara Alkali Co., chairman; Stephen F. Urban, E. R. Squibb & Sons; Charles F. Alexander, L. Sonneborn Sons, Inc.; R. A. Nelson, Riches-Nelson, Inc.; William H. Adkins, William H. Adkins Co.; N. H. Fyffe, Oldbury Electro-Chemical Co., and Vincent L. Rebak, Heyden Chemical Corp. Mr. Adkins, one of the founders of the Association, in 1921, was awarded life membership in the organization.

New Tenn. Eastman Odor

A new perfume additive, "Compound 77-B," was announced recently by Tennessee Eastman Company of Kingsport, Tenn. The odor is said to be quite distinctive, yet resembles that of oil of patchouli and oil of vetivert. Tennessee Eastman Co. for a number of years has manufactured and marketed odors such as dimethyl ether of hydroquinone to soap makers and perfumers. Samples of the new compound are available from the manufacturer on request.

Lever Shifts Jones

Robert Linton Jones was recently transferred to Atlanta as division manager for Lever Brothers Co., New York. Mr. Jones started with the firm in Philadelphia in March, 1920. Thereafter he served in various capacities in the sales department both in the home office and in several cities throughout the U. S. This included four years in Atlanta where he served as assistant division manager from 1940 to 1944. He also served as division manager in Kansas City, Houston and Chicago.

T. W. Pierce was formerly divisional sales manager in Atlanta, prior to his appointment as sales manager of the New York division.

Hibarger to Capital Prods.

E. G. Hibarger, formerly Chicago divisional manager for Emery Industries, recently joined Capital City Products Co., Columbus, O., as manager of their fatty acids department. He succeeds A. Armer who will now be in position to devote all of his time to the firm's edible fat division. Capital City, manufacturers of margarine, mayonnaise and other related food products, now produces a complete line of vegetable fatty acids. The firm was established over 70 years ago.

P&G Man on AMA Panel

Walter Emmerling, office manager of Procter & Gamble Co., Cincinnati, was a member of a panel discussion at the recent two-day national Office Management Conference of the American Management Association. The meeting was held at the Hotel New Yorker, New York, and discussed plans for meeting the current shortage of clerical personnel.

In New NPA Post

Kenneth H. Klipstein, director of the chemical division of the National Production Authority of the U. S. Department of Commerce, was recently appointed assistant administrator in charge of the agency's chemical, rubber and forest products bureau. He succeeds Francis J. Curtis, who resigned Nov. 8, to return to his industry post as vice-president and director of Monsanto Chemical Co., St. Louis. Lawrence W. Strattner, administrative vice-president of the West Virginia Pulp & Paper Co., New York, has been named deputy administer of the bureau. He replaces Gabriel J. Ticoulat, who was recently appointed a deputy administrator of the Defense Production Administration for international problems. The new assistant administrator is on leave as assistant general manager and head of the technical department of the Calco Chemical Division, American Cyanamid Co., Bound Brook, N. J.

New D&O Aromatic Solvent

"Solvarom," a new solvent especially recommended for use with all crystalline aromatic chemicals, gums and resins, was announced recently by Dodge & Olcott, Inc., New York. A high-boiling, polyoxy aromatic ether "Solvarom," is available in 25 pound cans for 95 cents a pound and in 400 pound drums for 90 cents a pound. It is stable in alkali and in most acids, is soluble in all proportions in essential oils and mineral oil, and clearly soluble in 1½ volumes of 70 percent alcohol. Chemically inert and completely stable in the presence of alkali, "Solvarom" is particularly useful in soap formulations.

Propose cut in ceilings on soaps, tallow, grease; Detergent output may drop

A PROPOSAL that soaps and cleansers prices be established at present levels was discussed by the Soap, Cleanser and Synthetic Detergent Industry Advisory Committee and representatives of the Office of Price Stabilization at a meeting in Washington, November 19. Currently soap prices are about seven to nine per cent under ceiling, according to OPS officials. New, lower ceiling prices on soaps and cleansers are scheduled because prices of tallow and grease are presently about 40 per cent under their ceiling levels.

The OPS representatives told the Soap, Cleanser and Synthetic Detergent Industry Advisory Committee that it would press for new reduced ceiling prices on tallow and grease. Following a meeting of the OPS and the Tallow and Grease Industry Advisory Committee, at which the OPS indicated it was planning to set new tallow and grease ceilings based on current levels, the Industry Advisory Committee resigned as a body in a telegram to Michael DiSalle, OPS Administrator. In the telegram it was charged that the advisory committee is being used as a "rubber stamp" on decisions previously arrived at by OPS. It also declared that the OPS is "sacrificing the well-being of the (tallow and grease) industry to political interests," and that there is no economic justification for a second rollback in tallow and grease prices.

Renderers Profits Low

AT THE Tallow and Grease Industry Advisory Committee meeting, spokesmen for the renderers stated that because of the low profit margins in the industry, present ceilings should be maintained. OPS officials, however, pointed out that the agency proposes to freeze ceiling prices of soaps at current levels and that these prices should not be frozen without some protection for soap manufacturers against rises in tallow and grease prices.

Representing the OPS at the conference were Arvel L. Erikson, assistant director of the Food and Restaurant Division; John H. Baker, chief, Fats and Oils Branch; James A. Carey, head, Soap and Glycerine Section; Stanley Rose, attorney; Charles Lund, John Hammill and Harry Bender, economists; Aleta Hauser of the Enforcement Office and W. B. Thomas, Jr., of the Office of Advisory Committees.

Signers of the telegram of resignation to Mr. DiSalle were: Don Howard of Kingan & Co., Indianapolis; Harold Nelson, Pacific Meat Co., Portland, Ore.; Martin J. Rubin, H. M. Rubin Co., Long Island City, N. Y.; A. C. Collins, Pittsburgh Melting Co., Pittsburgh, Pa.; Ray Norton, Norton Co., Washington, D. C.; Harold Peeler, M. A. Delph Co., Indianapolis and R. C. Badger, Marion Packing Co., Ocala, Fla.

Ask for Soap Decontrol

IN ITS meeting with representatives of the soap industry, the OPS was told by industry members that although manufacturers' prices of soap are now below OPS ceilings and the cost of raw materials have decreased substantially, soapers hoped present ceilings could be maintained or if this could not be done, that soaps and cleansers be decontrolled. They said that present ceilings would act as a safeguard against runaway prices in the future and expressed fear that if the ceilings were lowered, this would set a precedent for lowered ceilings in other industries where costs may have decreased.

OPS officials took the recommendation of the Industry Advisory Committee under advisement, but told members that the agency felt that soaps and cleansers should remain under ceiling and that present ceilings should be reduced to approximate current selling prices. The industry representatives were also told that OPS is now considering specific ceilings on the retail prices of soap and cleansers. Ceiling prices for these products are now calculated under the General Ceiling Price Regulations. A study of retail margins is being made in connection with the proposed retail soap price regulation.

Representing OPS at the Soap conference were Arvel L. Erikson, assistant director of the Food and Restaurant Division; John H. Baker, chief, Fats and Oils Branch; James A. Carey, head, Soap and Glycerine Section; Edgar T. Boyce and Stanley Rose, attorneys; Charles Lund, economist; J. J. Westrut and H. S. McKenzie, accountants; W. R. Thomas, Jr., Office of Advisory Committee; Aleta Hauser, Office of Enforcement. Present from the NPA were Albert Burgess and George A. Wrisley. Robert Walsh attended from the Fats and Oils Branch, U. S. Department of Agriculture.

Committeemen present were: T. J. Wood, Procter & Gamble Co., Cincinnati; C. G. Fox, Fels & Co., Philadelphia; M. L. Westering, Swift & Co., Chicago; J. O. Brownell, Lever Brothers Co., New York; James A. Reilly, Colgate-Palmolive-Peet Co., Jersey City, N. J.; A. C. Stoneman, Purex Corp., Ltd., South Gate, Calif.; Russell H. Young, Davies-Young Soap Co., Dayton, O.; F. H. Buck, Jr., Ultra Chemical Co., Paterson, N. J.; N. S. Dahl, John T. Stanley Co., New York; L. J. Gumpert, B. T. Babbitt Corp., New York; Harold E. Bramston-Cook, Oronite Chemical Co., New York; J. R. Herd, Armour and Co., Chicago; Arthur B. Hersberger, Atlantic Refining Co., Philadelphia.

Face Detergent Cut-back

A "SIGNIFICANT" cut-back in production of synthetic detergents could result from the loss of Iranian oil imports to the United States, officials of the National Production Authority, U. S. Department of Commerce, told the Synthetic Detergents Industry Advisory Committee at a meeting in Washington, D. C.,

November 20. If Iran's petroleum products are lost to the U. S., benzene will have to be diverted from use in synthetic detergents to aviation gasoline production, NPA pointed out.

However, domestic production of benezene at present levels, plus imports, should be adequate to meet 1952 needs of detergent manufacturers, the NPA stated.

It was pointed out at the meeting that the Iranian oil crisis would not affect the detergent industry directly, but that the loss of petroleum products from Iran would mean Europe would have to divert its benzol to making aviation gasoline, thus cutting down on the amount of benzol available for export to the U. S. for detergents and other products. In other words the loss of the Abadan refinery might disturb the output of aviation gasoline, and eventually have an effect on synthetic detergent production. At the same time, it was stated we have been without petroleum products from Abadan for some time now, and are continuing to produce synthetics on a normal scale. The possibility of overplaying the world petroleum crisis as far as it concerns synthetic detergents was also indicated.

Supplies of sodium phosphates will be adequate in 1952, according to present indications, the industry advisory committee was also told. Expanded facilities are now contemplated which will increase capacity by 60 to 70 per cent by 1953, NPA reported.

In a discussion of the sulfuric acid situation, NPA explained that the Defense Production Administration had proposed a program which would limit the use of elemental sulfur by producers of sulfuric acid to 90 per cent of the sulfur used by each manufacturer in 1950. Some users of sulfuric acid, including the synthetic detergent industry would be limited to 90 per cent of their use of the acid during the same year. DPA and NPA have delayed action on these restrictions pending a further study NPA reported.

Ask Sulfur Carry-over

THE COMMITTEE emphasized the essential part that synthetic detergents play in the economy of the nation, both in public health and in industry. Believing a thorough understanding of the importance of such detergents to the mobilization program and public health is vital, the committee recommended that NPA appoint a task group to develop the facts on the essentiality of synthetic detergents for presentation to the Defense Production Administration.

The committee also recommended that in the promulgation of any sulfur restrictions, the following points be considered:

1.) That the order be on a company-wide limitation basis rather than a plant-by-plant figured basis.

2.) That allotments be made on an annual usage basis, broken down by quarters, with a carry-over privilege from one quarter to the next.

NPA agreed to take all recommendations under advisement. George A. Wrisley currently serving as chief, Glycerine, Soap and Synthetic Detergents Section, Chemical Division, Chemical, Rubber and Forest Products Bureau, National Production Authority, presided.

Synthetic detergent committee members in attendance included: M. A. Conner, Allied Chemical & Dye Corp., New York; H. W. Zussman, Alrose Chemical Co., Cranston, R. I.; Kenneth E. Milford, Atlas Powder Co., Wilmington, Del.; James A. Reilly, Colgate-Palmolive-Peet Co., Jersey City, N. J.; Dr. Ray Mayhew, General Aniline & Film Corp.; Easton, Pa.; J. O. Brownell, Lever Brothers Co., New York; W. R. Corey, Monsanto Chemical Co., St. Louis; F. L. Jones, Nopco Chemical Co., Harrison, N. J.; Richard Dexheimer, Onyx Oil & Chemical Co., Jersey City, N. J.; H. E. Bramston-Cook, Oronite Chemical Co., New York; T. J. Wood, Procter & Gamble Co., Cincinnati; A. C. Stoneman, Purex Corp., Ltd., South Gate, Calif.; A. C. Stepan, Jr., Stepan Chemical Co., Chicago.; Harry Theobald, Theobald Industries, Kearny, N. J., and Fred H. Buck, Ultra Chemical Works, Paterson, N. J.

At Synthetic Detergent I.A.C. NPA meeting.

To Analyze Glycerine

A series of glycerine samples for analysis by interested laboratories to obtain data on the use of the AOCS methods and the reproducibility of the results of the method is now available from C. P. Long of Procter & Gamble Co., Cincinnati, the American Oil Chemists' Society announced recently. Samples should be obtained before Jan. 1, 1952. There is no charge for them. Samples available include CP glycerine, soap lye crude and saponification crude.

P&G Mexican Plant

Procter & Gamble Co., Cincinnati, is currently building a plant for the production of synthetic detergents in Mexico City, it was announced recently by the Confederacion de Camara Industriales (Federation of Industrial Chambers). The new plant, which is expected to get into production early in 1952, will make Mexico the second largest producer of synthetic detergents in Latin America. Cuba, in first place, is where P&G initiated its program of producing synthetic detergents in Latin American countries. A group of nine Mexican experts are currently in the U. S. studying methods of production and processing. When they return to Mexico they will form the nucleus of trained technicians for the new industry.

Masterson to Blockson

John P. Masterson, formerly district manager of Oronite Chemical Co., San Francisco, with headquarters in Chicago, joined the sales staff of Blockson Chemical Co., Chicago, according to a recent announcement. Mr. Masterson is a graduate of Boston College, where he received an M.S. degree in chemistry.

New Lever Promotion Mgr.

Appointment of G. Walter LaBorie as general promotion manager for Lever Brothers Co., New York, was announced recently by James A. Barnett, vice-president in charge of advertising and promotion. Mr. LaBorie was formerly with Reuben H. Donnelley Corp., New York, where he spent the past six years as an account executive. Previously he was associated with the printing industry in Rochester, N. Y.

D&O Names Perrone

The appointment of Fred Perrone as sales representative for the northern New Jersey territory was announced recently by Dodge & Olcott, Inc., New York. A resident of New Jersey and active in the industry for the past eight years, Mr. Perrone has been a member of the D&O New York staff since 1946 and has specialized in perfume bases and flavors.

Clark to Allied Board

E. W. Clark, for several years president of the Barrett Division, and more recently vice-president and treasurer of the parent company, was recently elected to the board of directors of Allied Chemical & Dye Corp., New York. He succeeds Charles F. Weber, whose recent death caused a vacancy on the Allied board.

Advances Fernandez

The advancement of Dr. Louis Fernandez to the position of group leader in the research department of the phosphate division of Monsanto Chemical Co., in Anniston, Ala., was announced recently. Dr. Fernandez is in charge of detergent evaluation.

Reviews Chemical Supply

In its third review of the supply situation on various chemicals, the Defense Production Administration recently indicated that there has been little change in the general picture since the previous (its second) list was issued. Among those chemicals on the short supply list are carbon tetrachloride, Freon, naphthalene, pyrethrum, and sulfuric acid. Chemicals in approximate balance with demand include DDT, anhydrous ammonia, glycerin, paradichlorobenzene and perchloroethylene. Among the chemicals in group 3, fair to good supply, are benzene hexachloride, caustic potash, caustic soda, synthetic detergents, rosin, rotenone, soda ash.

Award to deNavarre

Maison G. deNavarre of Beauty Counselors, Detroit, and technical editor of *American Perfumer* has been named to receive the 1951 Medal Award of the Society of Cosmetic Chemists. Official presentation will be made at the Society's annual technical meeting at the Hotel Biltmore, New York, Dec. 6.

DCAT Names Committees

The appointment of chairmen to head committees of the Drug Chemical and Allied Trades Section of the New York Board of Trade for 1951-52, as announced recently by Charles M. Macauley of Pro-phy-lactic Brush Co., New York, include: arbitration, Ralph A. Clark of J. T. Baker Chemical Co.; auditing, S. F. Urban, E. R. Squibb & Sons; bulletin, Stanley I. Clark, Sterling Drug, Inc.; coordination—for unification of drug laws, Carle M. Bigelow, Calco Chemical Division, American Cyanamid Co.; finance, Hugh S. Crosson, McKesson & Robbins, Inc.; legislative, James G. Flanagan, S. B. Penick & Co.; tariff, Fred G. Singer, E. I. du Pont de Nemours & Co.; membership, Claude A. Hanford, Pharmaco, Inc.; membership maintenance, J. David Heyden, Gelatin Products Div., R. P. Scherer Corp.; publicity, Murray Breeze, Murray Breeze Associates; public relations, George S. McMillan, Bristol-Myers Co.; section activities, Lloyd I. Volckening, Ivers-Lee Co.

At the same time, Mr. Macauley announced that the 62nd annual meeting of DCAT would be held Sept. 25-28 at Pocono Manor Inn, Pocono Manor, Pa. The growing attendance at these meetings necessitated the change from Shawnee Inn, Shawnee-on-Delaware, Pa., where the meetings have been held for the last five years.

The annual dinner of the DCAT will be held at the Waldorf-Astoria Hotel, New York, Thursday evening, March 6. There will be receptions in various suites prior to the dinner, which will be held in the grand ballroom. The name of the speaker for the affair has not been announced as yet.

N.E. Oil Chems. to Meet

The next meeting of the Northeast Oil Chemists Society will be held Dec. 5, at 6:30 p.m. at the Military Park Hotel, Newark, N. J. Dr. Edward A. Lawrence of the research and development staff of Colgate-Palmolive-Peet Co., Jersey City, N. J., will be the principal speaker at the dinner meeting. His subject will be "Continuous Fat Splitting and Fatty Acid Distillation."

A. Henneberger Dies

Armin Henneberger, 63, Texas sales supervisor for Procter & Gamble Co., Cincinnati for 31 years died Oct. 23 in a Dallas hospital. A native of St. Louis, Mr. Henneberger moved to Dallas in 1919. In 1932 he moved to Austin, later returning to Dallas. He was retired last year. Surviving are his widow, three sons, two daughters and a brother. Honorary pallbearers for the Dallas funeral services were Procter & Gamble employees.

David P. Cosgrove Dies

David P. Cosgrove, president of Sterne and Son, Chicago fats and oils brokers, died recently at his home. He is survived by his widow, Jessie; two sons, Dr. Charles and Jack, and a daughter, Mrs. Norva Cleveland.

New Filtrol Research Lab.

Construction has begun on a new 16,000 square foot research building to house its expanding research activities, it was announced recently by Filtrol Corp., Los Angeles. The new unit, being built by McIsaac, Menke & Roach of Los Angeles, is located adjacent to Filtrol's Vernon, Calif., manufacturing facilities. The building is to be of tilt-up type wall, designed and constructed of reinforced concrete slab with poured columns and roof beams. Individual laboratories and offices will be separated by fire-proof walls of metal stud and plaster construction. The building is expected to be completed before the middle of 1952.

Brown on TGA Board

The election of Robert B. Brown, president of Bristol-Myers products division of Bristol-Myers Co., New York, as a director of the Toilet Goods Association to succeed Joseph P. Hardie, who has retired, was announced recently.

Arthur L. Schur Is Dead

Arthur L. Schur, a garage operator and former controller of I. Rokeach & Sons, Brooklyn kosher soap and food firm, died of a heart attack at his home in Manhattan, recently. He was 59. A native of Boston, he was graduated from Harvard in 1917, serving with the Ordnance Department during the first World War. From 1938 until recent years he was the operator of a chain of supermarkets on Long Island and in the Bronx.

Ring Joins Wyandotte

Russell D. Ring recently joined the research and development division of Wyandotte Chemicals Corp., Wyandotte, Mich. His work at Wyandotte includes the study of application of radio-active tracers to the study and measurement of the efficiency of cleaning agents and processes. A recent recipient of an M.S. degree from Oklahoma A. & M., where he served as an instructor in chemistry, Mr. Ring was employed on an atomic energy project.

New Filtrol Corp. Research Building

McGregor Forms Own Firm

Formation of Alkali & Chemical Associates, Ltd., a new company, with offices at 32 Broadway, New York, was announced recently by James G. McGregor, who had been associated with John A. Chew, Inc., New York, for the past 18 years. The firm will specialize in heavy chemicals for export.

Dermatitis . . .

(*From Page* 44)

and the pH should be below 7.5.

As stated before, the detergents are not selective in their action to remove only extraneous soil from the skin. They also remove the natural protective acid mantle and this tends to dry the skin, then crack it, swell the keratin and make the sensitive skin layers more easily accessible to irritants.

The better the detergent as far as wetting, emulsifying and lowering the surface activity is concerned, the more it is likely to damage the skin.

Remedies Suggested

WHAT can be done to lessen the increasing amount of hand eczemas among housewives, domestics, laundresses and others whose hands are exposed to them for long periods? 1. Manufacturers of cleansers should appropriate funds for studies of the action on the skin of the many detergents. The details of such studies can be planned so as to bring out quickly the facts required. 2. Formulations for skin cleansers, dishwashing, laundering and other detergents should take into account the relative skin irritant properties of the chemicals in the formula, the degree and length of skin contact necessary in the operation, so as to produce the least harmful formulations. 3. If irritant or strong chemicals must be incorporated in the cleansing formula, directions to prevent or diminish skin contact should be included in the instructions for use. The directions should include the use of fabric lined rubber gloves or gauntlets and the use on the hands after work of an emollient ointment or lotion containing lanolin or other natural fat.

NEW TRADE MARKS

THE following trade-mark was published in a recent issue of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of February 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, a fee of ten dollars must accompany each notice of opposition.

Suds-Up — This for detergent cleansing powder, used either dry or in solution. Filed Sept. 11, 1946 by Suds-Up Corp., Buffalo, N. Y. Claims use since Aug. 31, 1945.

The following trade marks are published in compliance with section 13 (a) of the Trade Mark Act of 1946. Notice of opposition must be filed within 30 days of publication and a fee of $25 must accompany each notice of opposition.

RAP—This for paint and varnish remover. Filed Oct. 21, 1950 by Pockrandt, Inc., Bay City, Mich. Claims use since June 6, 1950.

White Rain—This for liquid creme shampoo. Filed Dec. 17, 1949 by Gillette Safety Razor Co., Boston. Claims use since Jan. 10, 1949.

Dan-Dee—This for cleaner and polish for glass, metal and porcelains. Filed June 8, 1948 by Twin City Shellac Co., Brooklyn. Claims use since May 21, 1948.

Kleenette — This for metal scouring sponge. Filed Jan. 20, 1950 by Kleenette Manufacturing Co., Chicago. Claims use since Dec. 15, 1948.

Silveray—This for cleaning and polishing preparation for metal ware. Filed Apr. 25, 1950 by Universal Western Chemical Corp., Chicago. Claims use since Mar. 1, 1950.

Tex Liquite — This for wax floor polish. Filed May 22, 1950 by Frank Gentleman, Dallas, Tex. Claims use since Mar. 1, 1950.

Pride — This for furniture polish. Filed Jan. 31, 1951 by S. C. Johnson & Sons, Inc., Racine, Wis. Claims use since July 24, 1924.

Wispray—This for liquid spray air purifier. Filed Apr. 25, 1950 by Leo Mann & Co., Boston. Claims use since Apr. 10, 1950.

Anticarie—This for grain disinfectant. Filed June 15, 1950 by H. P. Rossiger & Co., New York. Claims use since Mar. 15, 1950.

Nox-Insex—This for insecticide. Filed Jan. 29, 1951 by Thompson-Hayward Chemical Co., Kansas City, Mo. Claims use since Nov. 18, 1935.

Insect Foe—This for insect repellents. Filed Nov. 20, 1950 by S. Pfeiffer Manufacturing Co., St. Louis. Claims use since June 2, 1947.

S. B. Penick & Co.—This for ceresin and ozokerite waxes. Filed July 28, 1950 by S. B. Penick & Co., New York. Claims use since 1914.

Atlantic — This for petroleum waxes. Filed Aug. 23, 1950 by Atlantic Refining Co., Philadelphia. Claims use since Mar. 15, 1938.

Pendistrin — This for antibacterial preparations. Filed Feb. 16, 1951 by E. R. Squibb & Sons, New York. Claims use since Jan. 19, 1951.

Re-Pro-Due—This for preparations for the hair, namely shampoos. Filed June 9, 1949 by Louise Kinkade, Fremont, Nebr. Claims use since June 1, 1949.

Steri-Wash — This for detergent and sterilizing preparation for use in clothes washing machines. Filed Sept. 6, 1949 by Joseph B. Gillespie, Atlanta, Ga. Claims use since Aug. 2, 1949.

Rel-Kin—This for all purpose cleaner for removing grease and grime from aluminum and other surfaces. Filed Oct. 14, 1949 by Mastercraft Manufacturing & Equipment Co., Chicago. Claims use since Oct. 1, 1949.

Dural—This for detergent composition for washing glassware and ceramicware. Filed Jan. 26, 1950 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since Jan. 10, 1950.

Ring In — This for chemical compound for cleaning and treating chambers of internal combustion engines. Filed Mar. 6, 1950 by Edward Faulkner and Associates, Inc., Los Angeles. Claims use since Aug. 1, 1949.

Canary — This for wallpaper cleaner. Filed May 6, 1950 by The Benner Co., Streator, Ill. Claims use since Mar. 17, 1950.

Crete-Treat—This for chemical cleaner for masonry, concrete, brick, tile and other hard surfaces. Filed July 17, 1950 by E and F Sales Co., Peninsula, O. Claims use since Aug. 1, 1949.

Enzyme—This for protein digestant for the removal of spots and stains from clothing and similar items normally cleaned by the dry cleaning industry. Filed July 20, 1950 by Pabst Brewing Co., Chicago. Claims use since Dec. 30, 1949.

Marcelle — This for soap and shampoo. Filed July 21, 1950 by Marcelle Cosmetics, Inc., Chicago. Claims use since Mar. 10, 1937.

Clover Farm—This for dental cream. Filed Nov. 8, 1948 by Clover Farm Stores Corp., Cleveland. Claims use since 1882.

Pure — This for combination automobile cleaner and polish. Filed Nov. 5, 1948 by Pure Oil Co., Chicago. Claims use since May 14, 1938.

Colonial Laboratories—This for general cleaner, brass and silver polishes and glass cleaner. Filed May 6, 1949 by Colonial Chemical Co., Seattle. Claims use since April 1, 1946.

Formula 811—This for polish for automobiles, furniture, floors, metals and porcelain surfaces. Filed May 26, 1950 by Silicone Polish Corp., New York. Claims use since Dec. 1949.

D and D—This for disinfectants and insecticides. Filed July 15, 1947 by Demert & Dougherty, Inc., Chicago. Claims use since Apr. 1, 1923.

Farm Master—This for synthetic detergents in powder and liquid forms for cleansing milking equipment and dairy utensils. Filed Mar. 6, 1948 by Sears, Roebuck and Co., Chicago. Claims use since Jan. 15, 1945.

Fleet—This for room deodorant. Filed Jan. 24, 1951 by Bostwick Laboratories, Inc., Bridgeport, Conn. Claims use since Nov. 1, 1950.

G. A. 50—This for glove shampoo. Filed May 12, 1949 by Diamond Alkali Co., Cleveland. Claims use since Jan., 1947.

Nopco 99—This for detergent compositions for general industrial use, particularly in the laundry, textile and metal working industries. Filed Oct. 1, 1949 by Nopco Chemical Co., Harrison, N. J. Claims use since Apr., 1938.

Rustjel—This for gel composition containing rust stain removers. Filed Oct. 22, 1949 by U. S. Detergents Co., New York. Claims use since Mar. 10, 1947.

Fenco Albrite—This for soapy liquid cleaner for floors, woodwork, automobiles, carpets, mirrors, glass, etc. Filed Jan. 16, 1950 by Fenole Chemical Co., Jacksonville, Fla. Claims use since 1925.

Essex — This for toilet soap. Filed Jan. 9, 1950 by R. H. Macy & Co., New York. Claims use since Jan., 1919.

Just—This for detergent composition having disinfecting properties. Filed Apr. 5. 1950 by Fuld Brothers, Inc., Baltimore. Claims use since Mar. 20, 1950.

Nor'Way—This for windshield washer fluid. Filed Apr. 25, 1950 by Commercial Solvents Corp., New York. Claims use since Nov. 15, 1949.

Japonex — This for insecticide for controlling of the Japanese beetle. Filed Aug. 13, 1949 by Fairfax Biological Laboratory, Clinton Corners,

(*Turn to Page* 110)

there's more power for whitening in calcofluor whitening agents*

All types of commercial and household soaps and detergents can be given superior whitening power through the use of Calcofluor whitening agents.

Consider the important characteristics imparted to these new products by Calco research.

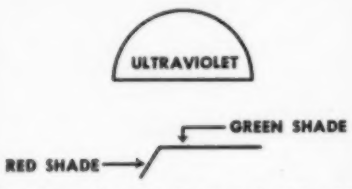
... Ultraviolet light absorption (without absorbing any appreciable amount of visual light).

... Good leveling characteristics (giving uniform distribution).

... Types suitable for treating effectively any type of fabric.

... Excellent fastness to hypochlorite.

A copy of Calco Technical Bulletin No. 811, "Optical Bleaches in Household Soaps and Detergents" containing much helpful data will be mailed to you upon request.



Hold a cotton fabric treated with whitening agent under an ultraviolet lamp in a dark room so that part of the cloth is illuminated directly and part obliquely. The direct part will be greener in hue. This phenomenon was first observed by Bezold and Brücke in 1873, and is now commercially important in the evaluation of brightness. Consult us about the significance of this test and any other questions as to the evaluation of whitening agents.

AMERICAN Cyanamid COMPANY
CALCO CHEMICAL DIVISION
PIGMENT DEPARTMENT
BOUND BROOK, NEW JERSEY

Calco®

BIDS AND AWARDS

Low FSS Soap Bids

Low bids on 150,000 pounds of chip soap and 135,000 pounds of toilet soap in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C., were submitted by Hershey Estates, Soap Divison, Hershey, Pa. (item 1, 8.2 cents per pound) and by Stahl Soap Corp., Brooklyn (item 2, 10.18 cents).

V.A. Dentrifice Award

The award on three items of dentrifice in a recent opening for miscellaneous supplies by the Veterans Administration, Washington, D.C., went to Comfort Manufacturing Co., Chicago, with bids of $1.11 on item 1, 5,616 dozen tubes; $1.17 on item 2, 1,656 dozen and $1.06 on item 3, 3,648 dozen.

Low Surgical Soap Bids

Reinitz Soap Co., Long Island City, N. Y., received the award on five items of liquid surgical soap in a recent opening for miscellaneous supplies by the Army Quartermaster Corps, New York. The low Reinitz bids were 8.75 cents on item a, 8.9 cents on item b, 8.8 cents on items c and d, and 8.7 cents on item e.

Wax Award to Trio

Trio Chemical Works, Brooklyn, received the award of 5,000 gallons of water emulsion floor wax in a recent opening for miscellaneous supplies by the Army Quartermaster Corps, Fort Bragg, N. C. The Trio bid was 68.6 cents. Other bidders in the opening included Abco, Inc., McKeesport, Pa., 88 cents a gallon; Jack Citrin, Brooklyn, 72 cents; Apex Chemical Co., Apex, N. C., 94.5 cents; West Disinfecting Co., Richmond, Va., $2.20; Carolina Food Products, Raleigh, N. C., 77.5 cents; Adams Products, St. Paul, Minn., $1.74; Selig Co., Atlanta, $1.17; Oil Specialties & Refining Co., Brooklyn, 90.8 cents; Joseph E. Frankle Co., Philadelphia, $1.16; Puritan Chemical Co., Atlanta, 78.95 cents; Veneer-O-Wax Co., Camden, N. J., 84 cents; R. M. Hollingshead Corp., Camden, N. J., 87.9 cents; Penetone Co., Tenafly, N. J., 82.5 cents; National Chemical Research, Chicago, 81 cents.

AQM Soap Awards

The following awards on ordinary issue soap were announced in a recent opening for miscellaneous supplies by the Army Quartermaster Corp, New York:

Pioneer Soap Co., San Francisco, item 1a, 6.79c 350 M lbs. f.o.b. San Francisco; total, $23,765.

Fitzpatrick Bros., Chicago, item 1b, 6.27c; 323,300 lbs. f.o.b. destination; total, $20,270.91.

Colgate-Palmolive-Peet Co., Jersey City, N. J., item 1a, 6c, 6,182,360 lbs.; b, 5.417c, 3,372,270 lbs.; 2a, 6.39c, 2,494,530 lbs.; c, 7.02c, 415,900 lbs.; d, 6.8c, 2,179,650 lbs.; f. 5.807c, 516,680 lbs.; h, 5.867c, 1,455,600 lbs.; i, 6.217c, 1,717,660 lbs.; j, 5.897c, 2,565,450 lbs.; total, $1,263,999.68.

National Soap & Chemical Co., Tacoma, Wash., item 2c, 7.87c, 242,150 lbs.; total, $19,057.21.

Gillam Soap Works, Fort Worth, Tex., item 2b, 8.66c, 218,600 lbs.; total, $18,930.76.

Newell Gutradt Co., San Francisco, item 1a, 7.97c; 60 M lbs.; f.o.b. San Francisco; total, $4,782.

Lever Bros. Co., New York, item 1a, 6.49c, 781,600 lbs., f.o.b. Cambridge, Mass., b, 6.13 c, 555,700 lbs.; 2a, 6.98c, 247,350 lbs.; f, 6.62c, 70,900 lbs.; total award 23,749,600 bars, $1,321,231.42 and 2,204,600 bars, $136,223.

Item 1a, 9,672,000 bars f.o.b. origin; export pack; b, 9,328,000 bars, f.o.b. origin; domestic pack; 2a, location Schenectady domestic pack; b, Sharpe, dom. pack.; c, Auburn, dom. pack.; d, Atlanta, dom. pack.; e, Belle Mead, dom. pack.; f, Schenectady, dom. pack.; g, Utah, dom. pack.; h, Columbus, export pack.; i, Atlanta, export pack.; j, Richmond, export pack.; k, Belle Mead, export pack.

FSS Soap Bids

In a recent opening for miscellaneous supplies by the Federal Supply Service, New York, the following bids were received on an unspecified quantity of soap: Hewitt Soap Co., New York, item 1, $6; Swift & Co., New York, item 1, $4.97; Stahl Soap Corp., Brooklyn, item 1, $3.99; Crystal Soap & Chemical Co., Philadelphia, item 1, $8.05; Unity Sanitary Supply Co., New York, item 1, $7.50; Colgate-Palmolive-Peet Co., Jersey City, N. J., item 1, $4.57, and Procter & Gamble Dist. Co., Cincinnati, item 1, $4.84.

Low P.O. Liquid Soap Bids

National Chemical Laboratories, Philadelphia, submitted a low bid of 35.8 cents, with an alternate of 55.3 cents on an unspecified quantity of liquid toilet soap in a recent opening for miscellaneous supplies by the Post Office Department, Washington, D. C. Other low bids in the opening were those of Trio Chemical Works, Brooklyn, 39 cents, with an alternate of 56 cents; Harley Soap Co., Philadelphia, 40 cents, with an alternate of 59 cents, and Erlen Products Co., Burbank, Calif., 40 cents.

Misc. P.O. Awards

The following awards were announced in connection with recent openings for miscellaneous supplies by the Post Office Department, Washington, D. C.: Purity Soap & Chemical Co., Minneapolis, 32 cents a gallon on two items of liquid toilet soap; Trio Chemical Works, Inc., Brooklyn, $1.86 a gallon on 75 gallons of carbon tetrachloride; Pal Products Manufacturing Co., Brooklyn, 4.7 cents a pound on 39,120 pounds of scouring powder, and Stevens Soap Corp., Brooklyn, 5.9 cents a pound on 57,600 pounds of soap powder.

Misc. Marine Corps Bids

Low bids on two items of 65,000 gallons of cresylic disinfectant in a recent opening for miscellaneous supplies by the Marine Corps, Washington, D. C., were submitted by Michel & Pelton Co., Oakland, Calif., with a bid of 75 cents on item 1 and Baird & McGuire, Inc., Holbrook, Mass., with a bid of 66.5 cents on item 2.

In another Marine Corps opening for two items of floor wax in five gallon cans, John C. Stalfort was low bidder on item a, calling for 17,000 gallons and b, requiring 33,000 gallons, with bids of 55.2 cents and 63.8 cents, respectively.

Some use Christmas bells...

Some use Christmas holly...

Some use a fat Santa Claus,
Round, red, and jolly...

But our wish takes all of them,
See? They're all here—
To say...

MERRY CHRISTMAS!

And a **BRIGHT GOOD** next year!

Norda ESSENTIAL OIL AND CHEMICAL COMPANY, INC., 601 West 26th Street, New York 1, N. Y.

CHICAGO • LOS ANGELES • ST. PAUL • MONTREAL • TORONTO • HAVANA • MEXICO CITY • LONDON • PARIS

ANOTHER *BUCKEYE* FIRST!

GERMELIM

A Concentrated Soap and Cleaner With the Amazing Phenol Coefficient of 3.5!

Most floor surfaces harbor an amazing number of both harmful and harmless bacteria invisible to the naked eye—presenting health hazards which should never be overlooked.

GERMELIM, in a single operation, cleans, deodorizes and destroys a large percentage of these dangerous germs—leaving floors spotlessly clean and with an extremely low bacteria count.

Clean, disinfect and deodorize floors in a single, thorough operation with Buckeye GERMELIM — latest development of the Davies-Young laboratories. GERMELIM is a concentrated soap and cleaner combination with the amazing phenol coefficient of 3.5. It cleans floors quickly and efficiently—rinses freely. Diluted with water in a 30 to 1 solution, it *destroys* dangerous floor bacteria on contact leaving a clean, lasting odor.

GERMELIM is as easy to use as ordinary floor cleaners, and is equally effective on floor surfaces of every type. You simply prepare a 30 to 1 scrubbing solution with GERMELIM and apply. When savings in time, money and effort are important . . . when low bacteria count is desirable . . . clean with GERMELIM. A free test sample with complete instructions for use is yours for the asking. Use the coupon below.

Another Great Product of
The Davies-Young Soap Company
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AVAILABLE IN 55, 30, 15, 5 AND 1 GALLON CONTAINERS

THE DAVIES-YOUNG SOAP COMPANY SSC-951
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Please send free sample of GERMELIM and full instructions for its use.

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Ampion Dispensers—Preferred

TILTYPE
Feather-touch vacuum control

In schools, office buildings, factories — any building where people gather — Ampion Dispensers are preferred. They're designed to give long, dependable service under everyday rough use. They're accurate too — dispense the right amount of liquid soap every time. Get the full details about the complete Ampion line.

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LIQUID SOAP DISPENSERS • LIQUID SOAPS AND BASES • OIL SOAPS, LIQUID AND PASTE • DISINFECTANTS • INSECTICIDES • WAXES & POLISHES • DEODORIZING BLOCKS • CONTAINERS • ALLIED PRODUCTS

DRYMET*

THE ECONOMICAL DETERGENT SILICATE

Cowles DRYMET, anhydrous sodium metasilicate, is the most highly concentrated form of sodium metasilicate available. It is more economical to use, on the basis of both Na_2O (alkalinity) and SiO_2 (silicate) than any other type of hydrated or anhydrous detergent silicate, either compounded or by itself. DRYMET contains no water of crystallization.

DRYSEQ*

THE ALL-PURPOSE DETERGENT SILICATE

Cowles DRYSEQ, anhydrous sodium sesquisilicate, is a medium pH alkaline cleaner which will do fast, dependable work at a low cost to the user. It is a white, free-flowing powder, quickly and completely soluble in hot or cold water—containing 56.75% Na_2O—making it an economical base material for compounding.

DRYORTH*

THE HEAVY-DUTY DETERGENT SILICATE

Cowles DRYORTH, anhydrous sodium orthosilicate, is a powerful, speedy, heavy-duty cleaner with valuable penetrating and wetting-out properties, reinforced dirt-removing power and unusual emulsifying action. It is an anhydrous, free-flowing powdered silicate containing not less than 60% Na_2O, which may also be used as an economical constituent of high pH cleaning compounds.

CRYSTAMET*

THE MEDIUM pH DETERGENT SILICATE

Cowles CRYSTAMET is a pure, perfectly white, free-flowing granular pentahydrate sodium metasilicate with the normal 42% water of crystallization. Suggested for compounding when it is desirable to lower the concentration of a finished product. Readily soluble—chemically stable—easy to handle. Can be used on medium pH jobs.

Cowles Chemicals

We'll be glad to send you our DRYMET File Folder containing complete technical information and suggested formulations.

* REG. U. S. PAT. OFF.

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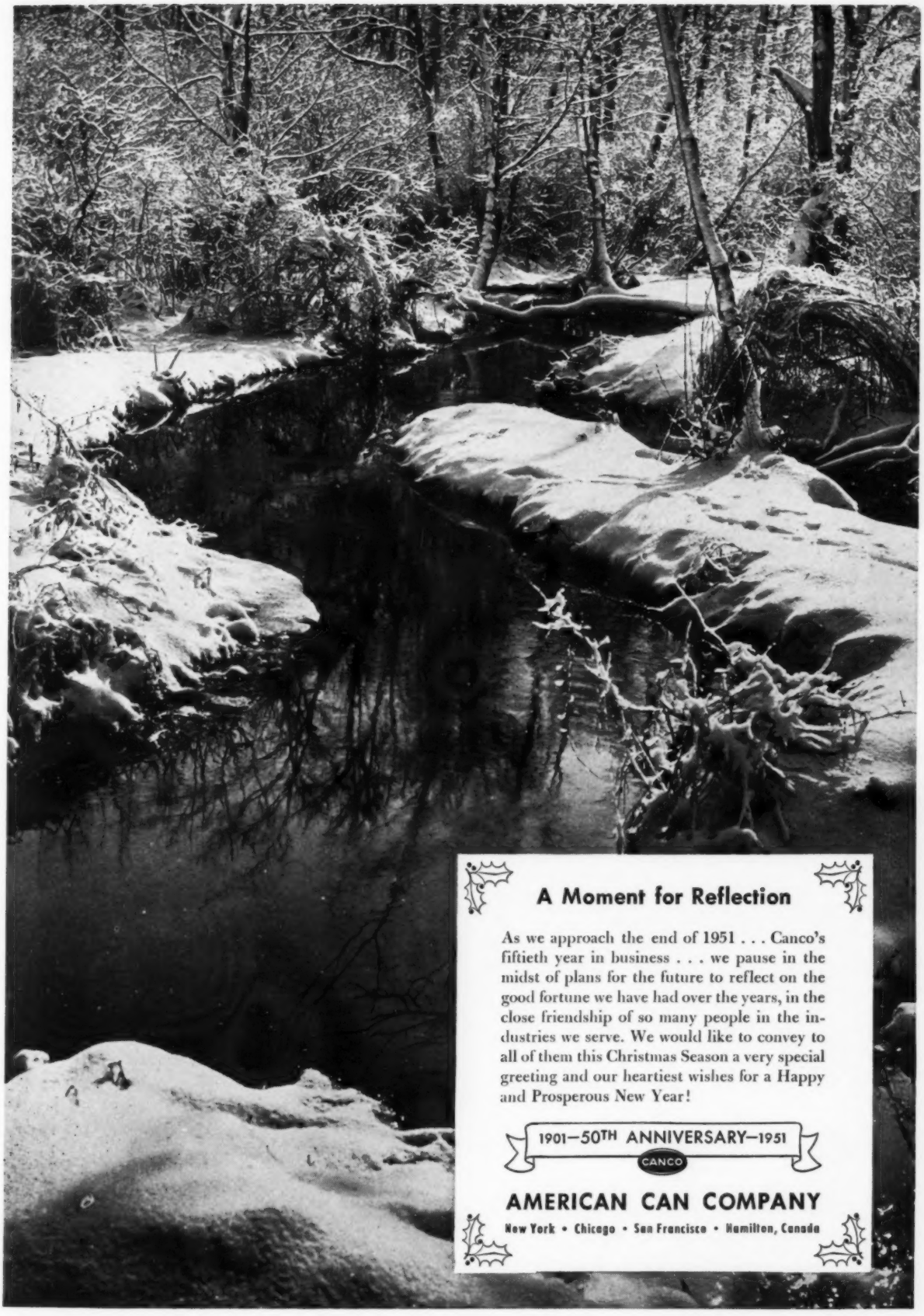
COWLES CHEMICAL COMPANY

HEAVY CHEMICAL DEPARTMENT • CLEVELAND 3, OHIO


A Moment for Reflection
As we approach the end of 1951 . . . Canco's fiftieth year in business . . . we pause in the midst of plans for the future to reflect on the good fortune we have had over the years, in the close friendship of so many people in the industries we serve. We would like to convey to all of them this Christmas Season a very special greeting and our heartiest wishes for a Happy and Prosperous New Year!
1901—50TH ANNIVERSARY—1951
CANCO
AMERICAN CAN COMPANY
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Consider its odor . . .

The ultimate success of any product is highly influenced by its odor.

Altho odor appreciation in such products as detergents, insecticides and other chemical specialties may be a subconscious influence—it is an effective influence on product acceptability.

Consider seriously the odor of your product from these stand points:

- EFFECTIVE MASKING.
- DESIRABLE ODOR LIFE AND VOLUME FOR THE PARTICULAR PRODUCT.
- SUITABILITY OF ODOR TYPE TO YOUR MARKET.

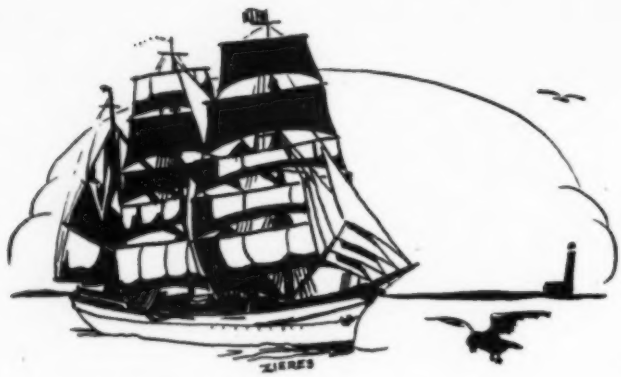
The advice and recommendations of the van Ameringen-Haebler staff of perfume chemists—experienced masters in odor engineering—can be of real help to you in determining the proper, effective perfuming of your product.

We solicit your inquiries.

MANUFACTURERS AND EXPORTERS OF FINE PERFUMES

van ameringen · haebler, inc.

521 WEST 57th STREET
NEW YORK 19, N. Y.



Since the Days of the Clipper Ship ...

Soapers have depended on WH&C ... for Raw Materials of Quality

SINCE 1838, we've been supplying the nation's "soapers" with basic raw materials.

CHECK YOUR NEEDS FROM THIS LIST

VEGETABLE OILS

Babassu
Castor
Cocoanut
Corn
Cottonseed
Olive
Palm
Peanut
Sesame
Soybean

ANIMAL FATS

Sperm Oil
Oleo Stearine
Lard Oil
Neatsfoot Oil
Grease
Tallow
Lanolin

FATTY ACIDS

Red Oil
Tall Oil
Stearic Acid
Hydrogenated Fatty Acid
Cottonseed and Soybean Fatty Acids
Tallow

ALKALIES

Caustic Soda, Solid, Liquid, and Flake
Soda Ash, Light and Dense
Carbonate of Potash, calcined and hydrated
Calcium Chloride
Tri Sodium Phosphate
Tetra Pyro Phosphate
Quadrafos Granular and Beads—a stable polyphosphate for water conditioning and mild but effective detergency.

SILICATE OF SODA—Liquid powdered and solid.

META SILICATE—"Metso"* Granular.

METSO* DETERGENTS—*55, 66, 99.*

MAYPONS—Unique surface active agents; prolific foam; high detergency and emulsifying powders; suitable for cosmetic and industrial use.

AIR DRYETTES • CHLOROPHYLL

** Reg. U. S. Pat. Off., Phila. Quartz Co.*

Let us mix your dry private formulas

Established 1838

Welch, Holme & Clark Co., Inc.

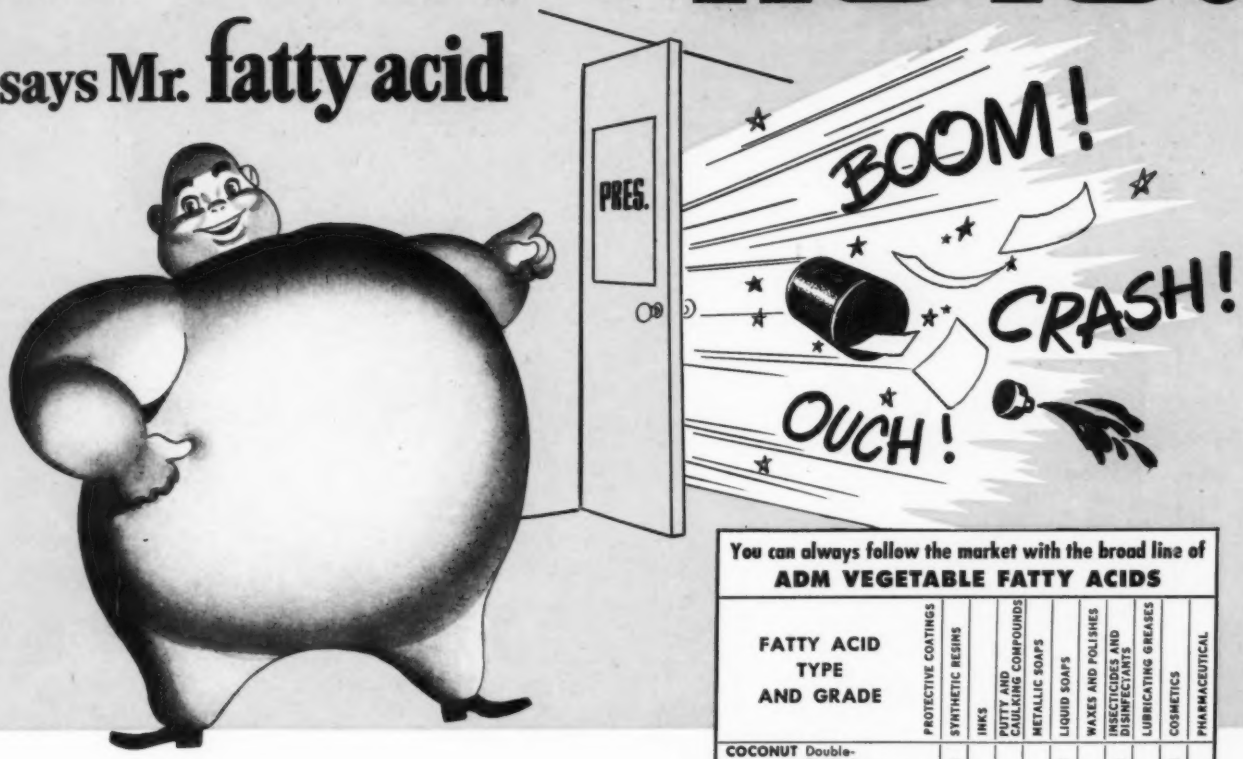
439 WEST STREET NEW YORK 14, N. Y.

Warehouses in New York and Newark, N. J.

When the boss suggests

lower soap costs...get RO-10!

...says Mr. fatty acid



You can always follow the market with the broad line of ADM VEGETABLE FATTY ACIDS

FATTY ACID TYPE AND GRADE	PROTECTIVE COATINGS	SYNTHETIC RESINS	INKS	PUTTY AND CAULKING COMPOUNDS	METALLIC SOAPS	LIQUID SOAPS	WAXES AND POLISHES	INSECTICIDES AND DISINFECTANTS	LUBRICATING GREASES	COSMETICS	PHARMACEUTICAL
COCONUT Double-Distilled		X				X		X		X	
LINSEED											
Water White	X	X	X								
Regular	X	X	X	X	X	X		X			
SM-500	X	X	X	X	X	X		X			
SM-600	X	X	X	X	X	X		X			
Essential Unsaturated Free Fatty Acids											X
SOYA											
Water White	X	X	X								
Regular	X	X	X		X	X		X			
RO-4	X	X	X		X	X		X			
RO-10	X	X	X	X	X	X	X	X	X		
RO-11S	X	X	X		X			X			
MIXED VEGETABLE RO-8	X	X		X	X	X	X	X	X		
CORN-SOYA Double-Distilled				X		X	X	X	X		
CORN Double-Distilled				X		X	X	X	X		
COTTONSEED Double-Distilled		X			X		X	X	X		
CHINAWOOD	X	X	X								

People get pretty excited about rising soap costs. But there's really no need for bad temper. If you want to make a saving that *is* a saving, and yet keep on making soaps you can be proud of, just switch to ADM's RO-10 fatty acid!

RO-10 is the lowest priced straight soybean acid in the ADM family—but still one of the most respected. Produced by distillation, it is remarkably free from the impurities often found in split acids. And its consistent uniformity makes it a real favorite among production men.

Much lower in price than whole oils or comparable grades of fatty acids, RO-10 is your best choice for *good, economical* soaps. Mail the coupon today for sample of RO-10 and technical data.

SPECIFICATIONS

ACID NO.	195-205
SAPONIFICATION NO.	198-207
IODINE NO. (Wijs)	125 Minimum
COLOR (Gardner)	6 Maximum
WEIGHT PER GALLON	7.52 lbs.
TITER (°C)	23-29

Take the Scientific Shortcut with

ADM fatty ACIDS

ARCHER-DANIELS-MIDLAND COMPANY 4

600 Roanoke Building • Minneapolis 2, Minnesota

● Please send:

☐ Technical Bulletin 78, RO-10 Soya Fatty Acids

☐ Samples of RO-10 Soya Fatty Acids

*Name*_____

*Address*_____

*Company*_____

*City*_____ *Zone*____ *State*_____

PRODUCTION SECTION

Sequestering Agents in Soap

These new auxiliary substances are used to maintain or improve the clarity of liquid soaps. The compound most widely used for the purpose is ethylenediamine tetracetic acid.

THE transparency of liquid soaps and soap solutions may be maintained or improved by the addition of auxiliary substances such as the new organic sequestering agents. Polyamino carboxyl acids and their salts ("Sequestrene",* and "Versene" ** are typical of this group), and nitrilo-triacetic acid have been found particularly adaptable in this application. Even small amounts of these products in liquid soaps and shampoos stabilize the finished products in points of turbidity. Although a number of amino acids are theoretically applicable as sequesting agents, the most widely used compound for this purpose is ethylenediamine tetracetic acid.

The concentrated commercial sequestering agent is strongly alkaline and requires care in handling, transformation and shipping. It is advised that the product not be allowed in contact with aluminum, zinc or tin. However in concentrations of .5 per cent, as is suggested for carpet shampoos, the product may be packed readily in tin cans.

The organic sequestering agents are generally available as powders, dry solid crystals, or as liquids. The latter are water solutions of 27 to 32 per cent concentration of solid substances, depending on the product. They are used more generally than the solid products, and are mainly solutions of the sodium or tetrasodium salts of ethylene tetracetic acid. The solutions are yellow to straw colored with a specific weight of about 1.21. A one per cent solution of the tetrasodium salt of ethylene tetracetic acid has a pH of about 11.75. These solutions resist hydrolysis, and may even be boiled for a considerable period without decreasing in activity. Typical commercial liquid products include: "RN water softener A" (made by Riches-Nelson, Inc., New York); "Sequestrene A" (Alrose Chemical Co., Providence, R. I.); "Nullapon B" (General Dyestuffs Corp., New York); "Versene" (Bersworth Chemical Co., Framingham, Mass.) and "Perma Kleer-40" (Refined Products Corp., Lyndhurst, N. J.).

Crystalline ethylene diamine tetracetic acid de-ionizes bivalent and trivalent cations in neutral or alkaline solutions to form stable chelate complexes. The potassium and amine salts of this compound may also be obtained. The solid form of this sequestrant is used to neutralize the effect of earth alkalies and traces of metals in soaps, detergents, germicides, polymers, textiles, pharmaceuticals, etc.

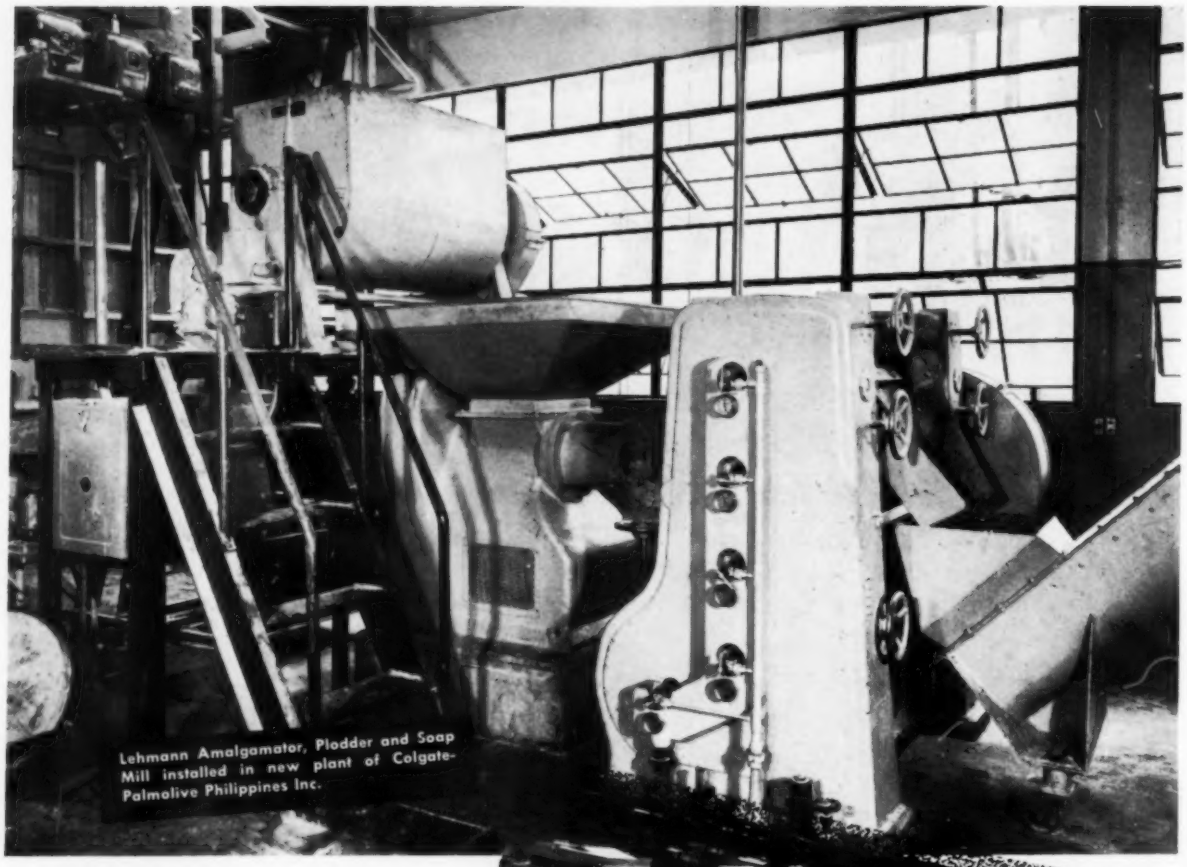
The action of the salts of ethylenediamine tetracetic acid is to isolate the molecules of metal ions by forming non-ionic chelates, so that these ions cannot react with other substances dissolved or dispersed in the solution. Sequestering agents form complex combinations with trivalent ions such as iron, aluminum and chromium, and more easily with bivalent calcium and magnesium. Ions which may form complex soluble combinations with the organic sequestering substances include bivalent barium, strontium, tin, copper, cobalt, zinc, lead, manganese and nickel.

Sequestering agents have maximum binding activity in neutral or alkaline solutions. As soon as the pH falls below 7, the stability of the complex combinations decreases, and the bound metal is gradually liberated in its ionized form. It is interesting to note that the metal polyaminocarboxyl acid-complexes are stable at boiling temperatures and in alkaline solutions, including a 15 per cent sodium hydroxide solution.

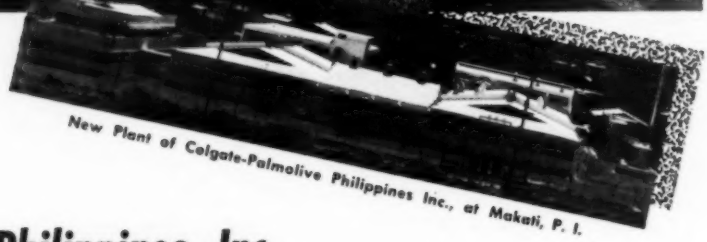
Sequestering agents are used to remove trivalent iron in water or other aqueous solutions, in the manufacture of soaps, fats, oils, emulsions, disinfectants, and pharmaceutical products because of the deleterious effect of this ion on the above group of products. They are used also to soften water, without forming deposits or turbidity; to eliminate lime soap deposits from hard water; to dissolve fat and food deposits; clarify liquid soap solutions; prevent oxidation of fats, oils, soaps and other organic substances; and stop reactions which are catalytically supported by metal ions.

In the liquid form, sequestering

* Alrose Chemical Co., Providence, R. I.
** Bersworth Chemical Co., Framingham, Mass.



Lehmann Amalgamator, Plodder and Soap Mill installed in new plant of Colgate-Palmolive Philippines Inc.



New Plant of Colgate-Palmolive Philippines Inc., at Makati, P. I.

LEHMANN *equipment is used in the new Makati Plant of Colgate-Palmolive Philippines, Inc.*

The new plant of Colgate-Palmolive Philippines Inc. at Makati, near Manila, is a model of efficient and modern construction. According to its General Manager, Mr. J. H. Carpenter, none of the many Colgate-Palmolive-Peet plants throughout the world has finer equipment.

It is significant, therefore, that the Company chose Lehmann soap processing machinery for this splendid new plant as it has for other Colgate-Palmolive-Peet units. Illustrated here are the 40G-Y Tilting Amalgamator, 310P Plodder and 812SA Five Roll Soap Mill — all of them Lehmann products.

It is confidently expected that this modern factory, incorporating the most up-to-date thinking in the processing of soap, will make an important contribution to the improvement of economic conditions and the standard of living in the war-ravaged Philippines.

Lehmann is proud to share in this example of American initiative and the good things possible through free enterprise.

LEHMANN

J. M. LEHMANN COMPANY, Inc.

MAIN OFFICE AND FACTORY: NEW YORK AVE., LYNDHURST, N. J.

agents are used in combination with fatty acid soaps and certain synthetic detergents to improve the foaming capacity and detersive action, to dissolve the lime soap and, in the case of hard water, prevent cloudiness. About one per cent of the agent is enough to clarify liquid soaps or shampoos. Where such products are to be used in very hard water, three to five per cent of the sequestering agent may be required to neutralize the hardness of the water. On occasion, it may be cheaper to use one per cent in the product, and then to rinse with water to which one per cent of the sequestering substance has been added. Where the sequestering substance is used as an antioxidant, less than one per cent may be sufficient to prevent rancidity. H. van Sluis, *The Alchimist* 5, No. 10, 281-286 (1951).

Determining Detergent Adsorption

SYNTHETIC detergents have generally replaced other less active surface active agents in cotton processing operations, such as kier boiling or open boil-off, chlorine or peroxide bleaching, dyeing, washing of naphthol or vat dye prints and other washing operations. Although it was known that detergents and other surface active agents were effective because they were adsorbed, it has not been possible until recently to determine the amount actually adsorbed on the textile surfaces.

An analytical method based on color changes with bromphenol blue, and improved by adding chloroform, which provides a sharper phase for more positive identification of the end point, allows a rapid analysis of minute quantities of anionic detergents, and made it possible to study both the amount of "Nacconal" adsorbed from solution by textile fibers and the factors that govern that adsorption. It has been demonstrated that the adsorption increases rapidly with the increasing concentration up to a concentration of 0.2 per cent on the pure organic basis. Raising the temperature increases the rate of adsorption.

For all practical purposes, the adsorption increases with time, but it does appear to reach a maximum for any fiber, which is dependent on the concentration of the detergent in solution.

The amount adsorbed from solution varies with the textile fiber; in the case of cotton, the adsorption is relatively low compared with silk and wool. Nevertheless, if processes are run under the most favorable conditions for adsorption, 0.3 per cent of pure organic sulfonate, based on the weight of the cotton, may be adsorbed. Since the amount of detergent used is small and since the weight of the cotton processed is relatively very large, there may be a substantial withdrawal which must be allowed for in calculating economical and efficient operating concentrations. For some purposes, it is desirable to have adsorbed detergent that will be effective in subsequent operations where it washes readily from the fibers. Where adsorbed detergent is not desired, processes should be operated to minimize it. I. H. Flett, L. F. Hoyt, J. Walter, report at 30th convention of Amer. Assoc. of Textile Chemists and Colorists, Oct. 17-19 (1951).

Phenyl Ethers in Soap

A detergent with effective germicidal properties may be obtained by incorporating up to six per cent (based on weight of the detergent) of 2:2 dihydroxy halogenated diphenyl ethers. The phenylethers may be used either in soap or detergents intended for domestic washing purposes. British patent No. 654,139.

Bactericidal Soaps

Studies of the bactericidal activity of phenols (benzyl) chlorophenol) in aqueous solutions of soaps (potassium laurate) indicated that although separate solutions of each of the two components had negligible bactericidal activity, a solution of both components had pronounced bactericidal activity against *Bact. coli.* Maximum activity is obtained when the soap micelles are saturated with the phenol.

Tests with various concentrations of each component indicated that an increase in the proportion of benzyl chlorophenol to potassium laurate in the solutions produces a marked increase in bactericidal activity. This property is shown to be related to the concentration of the benzyl chlorophenol in the micelles of the potassium laurate, and independent of the overall concentration in the solutions.

The method of determining bactericidal activity consisted of adding a standardized inoculum to a standard volume of a solution of the bactericide, immediately distributing samples of the reaction mixture into sterile tubes, and ultimately quenching the reaction by the addition of sterile broth. H. S. Bean and H. Perry, *J. Pharmacy and Pharmacology* 3, No. 10, 639-655 (1951).

Measuring Fluorescence

The over-all whitening effect produced by the use of fluorescent compounds is not readily measured by mechanical or instrumental means, but is usually compared by visual observation. However, one method of measuring fluorescent brightness as a function of the concentration of active ingredient on the cloth utilizes measurements by a photocell, which exclude ultraviolet reflectance, and another measurement which excludes visible reflected light. Measurements are standardized by adjusting the response of the photocell to a standard opal glass plate.

Muslin swatches which had been soaped and bleached for only one-half hour in the presence of brightener were whiter than material which had been bleached for one hour, but soaped without brightener. Swatches of unbleached muslin treated for various lengths of time under controlled conditions with and without brightener were compared with a standard bleach and commercially bleached sample of the same muslin. In all cases, swatches bleached in the presence of brightener for a shorter

length of time than standard (without brightener) were whiter than both the standard and the commercially bleached product. The brightening agents also showed good stability to the bleach liquor. Other studies indicated that very little brightener is destroyed during the bleaching process and that the fluorescence is produced more efficiently as the bleaching progresses.

Tests on print materials indicated that samples which had been treated with brightener showed whiter backgrounds than the swatches which were soaped in the absence of brightener. Studies on wool also gave favorable results. O. L. Sherburne, J. P. G. Beiswanger report at the 30th national convention of the Amer. Assoc. of Textile Chemists and Colorists.

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Syndets for Textiles

A high quality synthetic detergent provides a good balance between wetting, cleansing, emulsifying, dispersing and foaming properties. It functions under practically any chemical conditions, including reactions in the presence of oxidizing and reducing agents.

In spinning viscose, the addition of an adequate amount of "Nacconol NR" to the spin bath will increase the spinneret life several times between cleanings. A small amount of detergent in the wash water also aids in the removal of acid.

Synthetic detergents are used to good advantage in scouring prior to dyeing. They may be used by themselves, or in conjunction with mild alkalies. Where metalized yarns are used for decoration of the fabrics, the synthetic detergent causes no chemical damage to the metal. In securing yarns or fabrics containing animal or vegetable oils, best results are obtained by using a synthetic detergent in combination with soda ash or other mild alkali.

Carbonizing processes for wool stock and bleaching processes for wool are also facilitated by the presence of a suitable detergent. Streaky dyeings of heavy cotton fabrics and cotton wool blends may be essentially eliminated by running the goods for ten minutes in a .5 to 1.5 per cent "Nacconol NRSF" solution, based on the weight of the fabrics, in the presence of dyestuff before adding salt. The sewage disposal problem has also been alleviated to considerable extent, since certain synthetics do not require biological oxygen. O. M. Morgan, *Rayon and Synthetic Textiles* 32, No. 9, 93-106 (1951).

Continuous Fat Splitting

The continuous fat splitting tower installed recently at the McCook, Ill. plant of Armour and Company is used in processing tallows, greases, and coconut oil. The feed contains up to 35 per cent free fatty acids, and the split product contains 96 to 99 per cent free fatty acids. Sweet water from the bottom of the tower contains nine to 15 per cent glycerol, and is later evaporated to 88 per cent crude in a double effect evaporator. The tower is operated at about 700 psig and 250° C. It uses about 1800 pounds per hour of high pressure steam at a through put of 5000 pounds per hour of fat.

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Alkalies in Hair Treatment

Studies of the effects of water, steam, chemicals, etc., on the hair indicate a potential danger attached to the use of alkalies in hair treatments. It is important, therefore, that all soaps, emulsions, permanent waving assistants, etc., be free from appreciable amounts of caustic alkalies. Weaker alkaline salts, such as ammonium carbonate and borax are not so destructive in their action, and when used at room temperature, are not considered as deleterious.

Since the maximum efficiency of soap is exerted in solutions of pH 9.5 to 10.5, while the stability region of hair, that is the isoelectric region in which keratin is least affected by reagents, is at a pH of 5 to 8. As far as possible, the newer synthetic detergents should replace soap and alkali, in products intended for the hair.

Besides eliminating the possibility of alkaline damage, neutral detergents also prevent the deposition of insoluble calcium soaps when hard water is used. The latter ensures that the hair has greater gloss, and reduces the risk of bacterial attack on the hair and scalp. J. L. Stoves, *Manufacturing Chemist* 22, No. 10, 389 (1951).

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Analysis of Detergents

A method for the determination of sulfonated bodies suitable for "Igepon"-type detergents is based on the precipitation of the sulfonate with benzidine. The insoluble portion is filtered off and dissolved in alcohol, and aliquots are taken for titration with alkali and for direct weighing. The method is unsuitable for sulfated bodies, since it involves boiling with hydrochloric acid.

A similar method is based on the fact that alkyl aryl sulfonates react in aqueous solutions with an amine salt of a mineral acid, *p*-toluidine hydrochloride, to produce an amine salt that can be extracted with carbon tetrachloride. The carbon tetrachloride extract is mixed with neutral alcohol and titrated with .1 N sodium hydroxide. On titration, the compound is broken up in *p*-toluidine and the sulfonic acid, which reacts with the alkali. The weakly basic amine does not interfere.

It is essential that the molecular weight of the alkyl aryl sulfonate is known. This molecular weight can be ascertained by carrying out several determinations on a sample of known composition. *The Analyst* 76, No. 902, 279-286 (1951).

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Detergent-Soap Properties

The addition of ten to fifteen per cent synthetic detergent to soap keeps any calcium soap formed in hard water well dispersed, without affecting the foam appreciably. Addition of salts of cellulose oxy-acetic acid, such as "Tylose" improves detergency at soap concentrations below .3 per cent. Where fluorescent dyes are used on cotton, a point is reached in repeated launderings, where the amount of dye absorbed during laundering is equal to that removed. A concentration of .005 to .007 per cent active oxygen is best for stain removal. Too high an active oxygen concentration may be harmful to fibers. O. Uhl, *Fette u. Seifen* 53, 84-8 (1951).

WYANDOTTE ANNOUNCES

Another FIRST!

KREELON CD

the only promoted industrial detergent on the market!

It's a fact! Kreelon* CD is the first promoted industrial detergent ever offered in one product —the only product of its kind on the market today. Developed by Wyandotte and available only at Wyandotte, it combines the advantages of an excellent synthetic detergent and an excellent detergent-promoter.

What does this mean to you? Essentially this: by replacing the anionic detergent you're now using with Kreelon CD, you can make a superior cleaning compound easier, faster, cheaper. That applies to general household cleaners, laundry compounds, scouring powders, building maintenance cleaners, metal cleaners, etc. Kreelon CD is excellent for processing cotton, wool, silk and synthetics.

Strong claims—yes, but we can back them up. Let us show you how much Kreelon CD can improve the detergency values of your product. We'll be glad to work with you—no obligations, of course. Get the jump on competition—write us today.

Fast facts about Kreelon CD

- In properly compounded cleaners, Kreelon CD can be substituted for the anionic detergent you're now using — and you'll get 20% to 70% improvement of soil removal and whiteness retention in your finished product.
- Kreelon CD dissolves rapidly — is easy to use, fast-acting.
- Kreelon CD is dustless — compounding is easier and plant housekeeping chores are minimized.
- Kreelon CD is economical. A promoted detergent containing Carbose*, it gives you the advantages of a synthetic detergent and detergent-promoter in one product. It's ready to use — saves you storage space, handling and mixing time.
- Kreelon CD in your product reduces skin irritation — promotes long-lasting suds that are smooth and gentle to the hands.

*Reg. U. S. Pat. Off.

SODA ASH • CAUSTIC SODA • BICARBONATE OF SODA
CALCIUM CARBONATE • CALCIUM CHLORIDE • CHLORINE
HYDROGEN • DRY ICE • SYNTHETIC DETERGENTS • GLYCOLS
CARBOSE (Sodium CMC) • ETHYLENE DICHLORIDE • PROPYLENE
DICHLORIDE • AROMATIC SULFONIC ACID DERIVATIVES
OTHER ORGANIC AND INORGANIC CHEMICALS

Wyandotte CHEMICALS
REG. U. S. PAT. OFF.
Wyandotte, Michigan
OFFICES IN PRINCIPAL CITIES

Atlas Sorbitol Booklet

Atlas Powder Co., Wilmington, Del., recently announced the publication of its latest booklet on sorbitol. The 28-page booklet covers sorbitol and related polyols and their properties and uses in moisture conditioning and chemical manufacturing. A few of the uses of sorbitol, which is derived from natural sugars—corn, beet and cane—listed in the booklet include dentifrices, shaving creams, shoe dressings, and hand protectants, in which the material acts as a conditioner. It is also used in the synthesis of surface active agents, resins and varnishes. The history and occurrence of sorbitol, its chemical structure, properties, the need for and its use as a conditioner in various different types of products, and derivatives of sorbitol are covered in the booklet, which is available on request.

New Kay-Fries Bulletin

A technical data bulletin on a new product, methyl dichloroacetate, was issued recently by Kay-Fries Chemicals, Inc., New York. The bulletin, similar in format to ones previously issued, contains a listing of properties and specifications of the new material. Suggested applications are noted, and a synopsis of the work reported in the literature is included.

At the same time, the company announced that it has just completed expansion in the production capacity of its plant at West Haverstraw, New York, which earlier in the year had been damaged by fire. The plant can now produce almost eight times as much material as formerly.

New Aliphatic Amines

The announcement of three new high molecular weight aliphatic amines, and a new amine acetate, was made recently by Rohm & Haas Co., Philadelphia. At the same time, prices of the previously announced members of the series were reduced 10 to 15 cents per pound, or 15 to 20 percent. The new amines are designated "Alkylamine JM-R," "Alkylamine JM-T" and "Alklamine 81-T." The new amines find application as such, or as intermediates in the fields of bactericides, insecticides, fungicides, wetting agents, detergents, etc. Samples and technical literature describing physical properties and experimental directions for the reactions of these amines are available by writing the company at Washington Square, Philadelphia 5, Pa.

CSC Booklet on Dilan

Issuance of a 16-page illustrated brochure on "Dilan," a new type insecticide derived from nitroparaffins, was announced recently by Commercial Solvents Corp., New York. The booklet covers insecticidal uses of "Dilan," its suggested uses as a spray and dust, a description of the material, methods of formulating, physical properties, chemical properties, analyses of residues, flavor tests, toxicity data, handling and storage. Although its principal application thus far has been in controlling agricultural pests, "Dilan" is being tested and used as a residual for fly control.

New Book on Patents

A brief handbook on patents, "Patents for Technical Personnel" by Dr. Worth Wade, has been issued recently by Chemonomics, Inc., New York City. The book contains 44 pages, 6 x 9 inches, is paper covered and sells for $3.00. It discusses what a patent is, lists the steps which must be taken to protect an invention, discusses interference and prosecution of patents, how to read a patent, and the general development and current practice on patents.

New Emery Wax

The availability of a new development product, Emery C-842-R Stearone, the wax like character of which suggests its use as a wax or wax extender, was announced recently by Emery Industries, Inc., Cincinnati. The material is a white, crystalline solid, with a melting point of approximately 75° C. It is insoluble in water and only slightly soluble in hot alcohol or ether. A descriptive bulletin and an experimental sample are available on request from the company at Dept. 5, Carew Tower, Cincinnati 2, O.

Book on Oil, Soap

Oil, Soap and Fat by B. Levitt. Published by Chemical Publishing Co., New York. 230 pages 5½ x 8½ inches, cloth binding, price $6.00. A general discussion of soapmaking materials, soap manufacturing processes, synthetic surface active agents, specialty products, oils and fats are contained in this new text. A fair analysis is contained in this book, which does not pretend to thoroughly cover the fat, oil and soap fields. Processes and products are described clearly, but it is assumed that the reader has some familiarity with the subject. Tables of constants, analytical methods and a bibliography are included also.

Termite Control Data

A bulletin on "Subterranean Termite Control with Chlordane" was issued recently by Velsicol Corp., Chicago. The bulletin (No. 45) pointed out that "chlordane is well adapted to subterranean control because it can act as a contact toxicant, as a stomach toxicant and by vapor toxicity." The type of emulsion used most successfully and methods of application are also discussed in the bulletin which is available by writing the company.

Soap, Detergent Volume

The Modern Soap and Detergent Industry by Geoffrey Martin. Two volumes. Third edition. Published by the Technical Press, Ltd., London. About 850 pages, 6 x 9 inches, cloth binding, price $23.50.

The new edition of this text closely follows the previous edition, printed in 1931. It includes some up-to-date references, with brief abstracts of these items, some new illustrations, and new data. A new chapter on "Synthetic Surface Active Materials" has been added also in this new edition.

The general style of this book is to compile numerous references on the subjects concerned, and include brief abstracts of each. The general observation regarding this text, is that the price seems rather high for a book containing only a limited amount of new material.

PRODUCTION CLINIC

By E. G. THOMSSEN, Ph.D.

RECENTLY I found it necessary to obtain rather hurriedly some data regarding fatty acids. Under similar circumstances, usually it is necessary to consult a reference library and delve through the literature to come up with the desired information. The happy thought came to me that, rather than do this, I consult the advertising pages of a current issue of *Soap*. It was both surprising and satisfying to find that in a short time I had my problem solved. In fact, I was able to get more valuable and later data than I would have obtained in a library. This forcibly brought to my attention the advisability of perusing advertising pages as carefully as text pages in investigating chemicals, equipment and other accessories used in our industry.

In the field of fatty acids much advancement in variety and uses has occurred in the past decade and is being made every day. Very often before the information regarding these advances is described in the technical and trade papers, alert manufacturers tell their story in well written advertisements that generally include, in terse, understandable form, all the important information a prospective consumer of such products may desire. Technical bulletins frequently are offered in the advertisements to augment the data published in advertising.

It was not so many years ago that most manufacturers of soap, especially specialty soaps, were very much interested in various grades of stearic acid. The by-product red oil was not too easy to dispose of in a ready market. Much of it found its use in soaps used by textile manufacturers. Certain fatty acids made largely from poorer grade animal fats and vegetable oil foots were available for use in low grade soaps and washing powders. Some industries, such as those producing synthetic aromatics, require certain refined fatty acids to make their aromatics. The use of fatty acids in the sanitary chemical fields

DR. THOMSSEN

formerly amounted to but a fraction of the tonnage used today.

In order to illustrate more clearly just what suppliers of fatty acids have to offer today, I present some of the product information found through my investigation of their advertising in *Soap and Sanitary Chemicals* referred to above.

E. F. Drew & Co., New York, tell us about their fractionated, distilled fatty acids. Their AB grade is distilled and fractionated to improve odor and composition. At least 90 percent of the lower fatty acids are removed to remedy the "bite" in soaps occasioned by the use of coconut oil or its fatty acids. The ABH grade is adaptable for products requiring greater stability, such as shampoos and cosmetics. To lower the iodine value or percentage of unsaturated fatty acids, this grade is hydrogenated. Its color remains very stable. Drew has available caprylic, capric, lauric, myristic, palmitic, stearic, oleic and linoleic fatty acids, as well as mixed fatty acids from various vegetable oils. A reference booklet, "Drew Fatty Acids" may be had upon request.

Armour's Chemical Division, Chicago 9, produces at least 15 different fatty acids suited for soap manufacture. These comprise several of their well-known "Neo Fats" and double distilled fatty acids from animal and vegetable fats and oils. These fatty acids are standardized as to neutralization value, iodine value and color. The maker points out that by the use of fatty acids soap may be made more rapidly, a higher yield is obtained and a more uniform finished soap is obtained. All unsaponifiable matter and impurities are removed from the fatty acids during the distillation process. Additional information is available upon written request.

W. C. Hardesty Co., New York, has been making fatty acids for 25 years and is showing a constant, healthy growth. The company's laboratory is constantly conducting research to develop new and improved products. Production facilities have been expanded at two plants, and a larger technical field staff is available through the extensive research facilities of the Novadel-Agene Corp., a Wallace & Tiernan affiliate. These steps are designed to assure prompt service and high quality, uniform products.

Woburn Chemical Corp., Harrison, N. J., is well known in the fatty acid field. The firm has a special bulletin on cotton seed fatty acid that is distributed without charge. In its advertising story, Woburn features the use of cotton-seed fatty acids for the making of dry soaps and soap flakes. The specifications cited give the typical composition of these acids and their chemical and physical characteristics. Six advantages are indicated for the use of fatty acids. These are simplicity of manufacture, better color, economy in time, no shrinkage in yield due to glycerine loss, economy in labor, simpler installations, and better chemical control of the finished soaps.

Welch, Holme and Clark Co., New York, are one of the oldest houses selling many kinds of raw materials to soapers. They sell a variety of fatty acids. The W-H-C line includes red oil, tall oil and tallow, fatty acids, stearic acid, hydrogenated fatty acid, cotton seed and soybean fatty acids. Their experience goes way back to

1838, so they know what the raw material requirements of the soap maker are.

Emery Industries, Inc., Cincinnati, have been prominent in the fatty acid field for many years and have contributed much toward better methods to produce satisfactory acids. They call attention to the stability of their "Emersol" oleic acids which will keep finished products, based on them, free from rancidity under conditions to which they may be subjected such as extreme summer heat. According to the Mackey test for oxidation resistance, a means to measure auto-oxidation tendencies of oleic acid readily, "Emersol Elaines" show up very well in this regard. Since auto-oxidation is a cause of rancidity, stability against it results in cleaner odors and less discoloration of the finished products employing oleic acids. Emery also handle other fatty acids.

Archer-Daniels-Midland Co., Minneapolis, make a complete line of vegetable fatty acids. Their long, varied experience in the vegetable oil field is an excellent recommendation. Their products include coconut oil, linseed, soyabean, corn, corn-soya, cottonseed, Chinawood and mixed vegetable oils fatty acids. In several cases, as with the linseed and soya, several grades are available to fit certain requirements. A-D-M feature the high quality of their double distilled coconut oil fatty acids which are not fractionated but are straight run fatty acids with all the lower acids present. A-D-M offer fatty acids as straight or mixed carloads packed in drums or in tank cars.

Arnold, Hoffman & Company, Providence, are associated with Imperial Chemical Industries, London, England. They handle a complete range of highly refined red oils and an excellent grade of stearic acid.

In the field of fatty alcohols or derivatives of fatty acids which are of value at times to replace fatty acids in certain formulations like creams, we find M. Michel & Co., New York. They deal in U.S.P., N.F. and technical grades of cetyl, oleyl and stearyl alcohols.

The suppliers mentioned are not the only producers of fatty acids. They comprise only those whose story was advertised in the issue of *Soap* I investigated. From their advertising, I was able to gain in a short time more of the type information regarding the fatty acid problem I was seeking than would have been possible in a reference library. I learned sources, compositions, chemical and physical specifications, as well as obtaining information on handling, adaptability for formulations and varieties. This is exactly what was desired. It demonstrates the value of business paper advertising as a source of up-to-date information on products and processes.

Repairing Concrete

RECENTLY, I visited a plant which had suffered considerable water erosion damage to its concrete foundations. While concrete is presumed to be permanent, factory maintenance men often have a problem when it gives way. Intrusion-Prepakt Co., of Milwaukee, was doing the work. To make the repair, they merely drilled holes into the foundation and then forced in, under suitable air pressure, a thin grout of their special mix, including a patented chemical, which bonded the new composition with the old perfectly. They also used the same method, somewhat modified, to underpin the footings or apply a new coat over surface worn areas.

Bucket Elevators —

THE building of suitable elevators and conveyors, for powders, particularly, is not a simple matter. Stickiness, abrasiveness, friability and dust are common problems to cope with. Link Belt Co., which has offices in most large cities, builds a wide range of bucket elevators and screw conveyors that are designed to meet every contingency. Their engineers are always nearby to discuss and help with conveying and elevating problems.

Hand Soap Abrasive

AGRI-INDUS MANUFACTURING CO. of Columbus 15, O., has available a uniform, readily flowing, low priced, highly absorbent abrasive for hand soaps. It is called "COCOB" and is made from corn cobs. This corn cob meal is being satisfactorily substituted for more costly corn meal in many cases. Samples may be had upon request.

Screw Capper

THOSE considering the installation of a high speed, straight line screw capper or other types of cappers, should consult Resina Automatic Machine Co., Brooklyn 31, New York. These cappers are flexible, rapid, fully automatic and are giving very good satisfaction.

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Tall Oil in Emulsions

The use of tall oil in emulsions is the subject of a bulletin, "Tall Oil in Emulsions," issued recently by the Tall Oil Association, 122 E. 42nd St., New York 17, N. Y. The bulletin, another in a series "Tall Oil in Industry," discusses the availability of tall oil, the nature of emulsions, emulsifiers, and types of emulsifiers, how emulsions are made, soluble oils, equipment for making emulsions, and polymerization. Copies of the bulletin may be obtained by contacting the association.

—— ♦ ——

MM&R Price List

Issuance of its fourth quarter catalog and price list of essential oils, aromatic chemicals and related materials was announced recently by Magnus, Mabee & Reynard, Inc., New York. Copies are available by writing on company letterhead to the firm at 16 Desbrosses St., New York 13, N. Y.

—— ♦ ——

New Single Lined Tube

"Shelltube," a single - lined tube, scored for rectangular shaping and gum taped at the seam, is the newest addition to the line of corrugated paper products and specialties made by Shelton Manufacturing Co., Newark, N. J. Available in tubed rolls of 50 lineal feet, or cut to specified lengths, the new sleeves come in a minimum tube size of three inches, but are practically unlimited beyond this dimension. Stock weights are 35, 55, 70 and 100 pounds. These sizes are being kept in stock for immediate delivery: 5¾, 8¾, 11½ and 14½ inches.

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W. Coast Agent: Griffin Chemical Co., San Francisco, Los Angeles
Midwest Agent: Kraft Chemical Co., Inc., 917 W. 18th Street, Chicago
Wasatch Chemical Co., Salt Lake City, Utah
Barada & Page, Inc., Dallas and Houston, Texas
Associated Chemical Co. of Canada, 14 Darrell Ave., Toronto, Ontario
Chas. S. Tanner Co., 1815 Liberty Life Bldg., Charlotte, North Carolina

PRODUCTS AND PROCESSES

Hard Water Textile Soap

A new type of textile soap which will prevent curd formation in hard water is based on a water soluble soap containing a minor proportion of a salt of a higher fatty acid ester of a lower sulfocarboxylic acid amide of an alkanol amine. The ester is added in an amount sufficient to disperse lime soap in hard water. Australian patent 137,710.

Thickening Shampoos

When liquid detergents are used in the preparation of shampoos, they can be thickened by the addition of sodium alginate, which on account of its lubricant action also improves detergency.

A typical formula follows:

	parts
sodium alginate (quality SA/KP)	1.5
liquid detergent	50.0
color and perfume	q.s.
water	to make 100

The sodium alginate is first dissolved in water, and the other ingredients added while stirring. R. W. Moncrieff *Perfumery & Essential Oil Record* 42, No. 8, 261 (1951).

Plasticized Hand Cleaner

A cleaning material for personalized use, which is applied by rubbing on the skin, is contained in a composition incorporating a detergent, a solvent plasticizer and a solution in an evaporable solvent of a polyvinyl compound, having no inherent flexibility. British patent No. 654,211.

Hair Tint Shampoos

The principles of hair tinting are the same whether carried out as a separate operation or combined with cleaning. Inasmuch as the consumer expects a good foaming product in any type of cleaner, the anionic type detergents have been favored in shampoos. These materials have pH values of 7 or above, which conditions are not best from a tinting viewpoint.

Cationic colorings which tend to link with the carboxy groups of hair proteins, work effectively at low pH values. Such products could not be used safely with anionic detergents, in view of the possibility of precipitation occurring between the active ingredients. A non-ionic or cationic detergent is preferred for use with the cationic tints. *Manufacturing Chemist* 22, No. 10, 403 (1951).

Hexachlorophene Analysis

A new method of analyzing soap for the hexachlorophene content is based on spectrophotometric analysis. The soap is first treated with alcohol, barium bromide and ferric chloride, and then examined with a spectrophotometer at 550 millimicrons.

"Celluronic" Detergents

The detergent properties of surface active detergents may be improved by the addition of a suitable amount of "celluronic" acid. The "celluronic" acid should be added as a water soluble salt, and may be used with anionic or non-ionic detergents. British patent No. 653,702.

Anhydrous Soap Making

A laboratory method for preparing anhydrous sodium stearate consists of reacting sodium amalgam with stearic acid under moisture-free conditions. Tests with pure sodium indicated this product was not suitable for neutralizing the acid, since the reaction tended to be too vigorous initially, and trapped the soap. Furthermore, if the mix were heated too strongly, the fatty acid decomposed with considerable blackening. This decomposition was noted at temperatures in the vicinity of 300° C.

Studies of the thermal stability of sodium stearate indicated that soap containing free fatty acid produced water and stearon when highly heated, until the excess acidity was removed. Neutral soap appears to be very stable, and may be heated for at least 16 hours at 350° C., with no apparent decomposition, providing oxygen is excluded. Decomposition on heating was observed with soaps prepared with insufficient sodium. G. Stainsky, R. Farnard, and I. E. Puddington *Canadian J. of Chemistry* 29, No. 10, 838-842 (1951).

Acetal Cleaning Agents

Acetals of 1,4-butanediol of the general formula $O(CH_2)_4OCHR$, where R is a hydrogen or low molecule alkyl radical, are suitable as cleaning agents, as solubilizing agents in the preparation of methyl alcohol-containing motor fuels, and as solvents in organic polymerization processes. German Patent 805,520 (1951) through *Chemical Abstracts*.

Fatty Alcohol Production

The De Nora hydrogenation process for the production of fatty alcohols can be carried out in a semi-continuous or continuous system. The former method is preferred for capacities of less than 10 tons per day. In a continuous plant, the catalyst may be fixed, or, it may be mixed with fat, in which case, it flows continuously from the reaction vessel with the alcohols produced. The fixed system may be used in gas reactions; however, for the production of fatty alcohol reactions, the liquid stage is desirable.

The general equation for reducing an acid to the corresponding alcohol is as follows:

$$R\,C\,O\,O\,H + 2\,H_2 \rightarrow \leftarrow R\,C\,H_2\,O\,H + H_2O$$

In the De Nora process, a rapid stream of hydrogen is passed into the reaction vessel, causing efficient contact of the fats with the catalyst and hydrogen. It strips the reaction water and alcohols, and allows them to condense separately. The alcohols are further separated into light and heavy fractions. R. F. Warren, *Chemical Engineering* 58, No. 6, 117 (1951).

Bobrick 7 is back

The popular Bobrick 7 and 7MG soap dispensers are once again included in our complete line of soap dispensing equipment; Bobrick 829 Pullman Dispenser and Bobrick 860 Valve are also again available due to changes in government regulations. Bobrick 7, originally designed and manufactured in 1908 and continuously developed and proven in service since that time, has a solid, one-piece bronze body with chromium finish and a tamper-proof lock top. It is available with either clear glass or chromium plated brass globe firmly cemented to the body.

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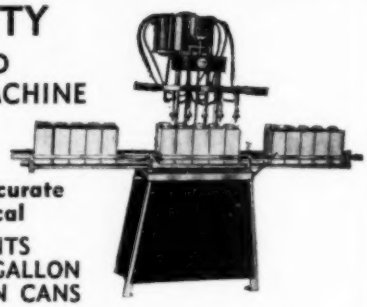

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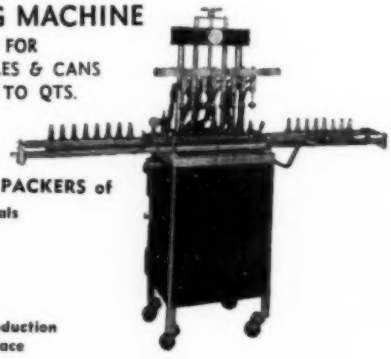

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NEW PATENTS

The information below is furnished by patent law offices of

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402 Bowen Building
Washington 5, D. C.

The data listed below is only a brief review of recently issued pertinent patents obtained by various U. S. Patent Office registered attorneys for manufacturers and/or inventors. Complete copies may be obtained direct from Lancaster, Allwine & Rommel by sending 50c for each copy desired. $1.00 for Canada. They will be pleased to give you free preliminary patent advice.

No. 2,566,298. Cleaning Composition, patented by Ernest R. Irwin, Whiting, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana. A cleaning composition is described consisting essentially of the following materials in the approximate proportions by volume:

	Per Cent
Alkali metal soap of mahogany sulfonic acids having molecular weights of 400-410.....	15 to 28
Alkali metal soap of mahogany acids of 470 to 500 molecular weight..	2 to 7
Catalytic reformed naphtha bottoms having initial boiling point above about 400° F. and final boiling point below about 600° F.....	12 to 20
Monochlorbenzene	25 to 35
Cresylic acid	10 to 20
Isopropyl alcohol	3 to 7
Naphthenic acid	3 to 10
Water	3 to 6
Monoethanolamine	0.25 to 1.0
	93.25 1.34

No. 2,567,404. Stabilizing Fatty Material, patented by John Ross, Ramsey, N. J., assignor to Colgate-Palmolive-Peet Company, Jersey City, N. J., a corporation of Delaware. Patented is the process of stabilizing fatty material which comprises treating a fatty material from the class consisting of high molecular weight fatty acids, fatty acid monoesters and fatty oils containing minor amounts of polyolefinic compounds at an elevated temperature under substantially anhydrous conditions with sufficient acid anhydride having an alpha-beta-enal group to react with said polyolefinic compounds until said polyolefinic compounds have reacted with said anhydride, and discontinuing said treatment before said anhydride reacts with a substantial amount of mono-olefinic constituents of said fatty material.

No. 2,567,381. Process for Manufacturing Soap, patented by Hans George Kirschenbauer, Allendale, N. J., and Joseph Henry Percy, deceased, late of Woodmere, N. Y., by Constance L. Percy, executrix, New York, N. Y., assignors to Colgate-Palmolive-Peet Company, Jersey City, N. J., a corporation of Delaware. The patent describes the making of soap from fatty glycerides by a process which includes a fitting operation in which the soap is settled into layers including neat soap, nigre and lye, the improvement which comprises adding to and mixing with the soap, prior to settling, a water soluble material yielding phosphate ions in the resulting mixture, settling the soap to form layers, and separating the neat soap from the other layers which contain the major portion of the phosphate material including impurities removed from said neat soap.

No. 2,567,041. Machine for Cutting and Spacing Soap Cakes, patented by John Van Buren, Brooklyn, N. Y., assignor to Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio. The patent covers a machine of the character described, a movable support, a platform above and extending across the support and having a plurality of sections successively diminishing in width across said support, a plurality of means above the platform for feeding and spreading a plurality of soap bars into spaced rows of side by side bars on said platform, said soap bars feeding and spreading means comprising a plurality of pusher arms graduated in length across the support to engage and feed a diminishing number of bars in the successive rows to and across the platform.

No. 2,565,471. Insecticidal Compositions Comprising Chlorinated Camphene, patented by George Allen Buntin, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware. An insecticidal composition is described comprising the product obtained by the chlorination with chlorine gas of at least one material of the group consisting of camphene, camphene hydrochloride, and isocamphene at an elevated temperature to a chlorine content of from about 60% to about 72%, said temperature being below that at which the product decomposes.

No. 2,566,716. Combined Cleaning and Polishing Composition, patented by Carsten F. Boe, Wooddale, and William R. Lowstuter, Wilmington, Del., assignors to Atomix, Inc., Wilmington, Del., a corporation of Delaware. The patent describes a combined cleaning and polishing emulsion of the oil-in-water type comprising, by weight, from about 20% to 90% water in the continuous phase, a film-forming, water-insoluble and oil-soluble resinous material having a melting point not lower than about 50° C., an oil-miscible and water-immiscible solvent for the resinous material, a solvent which is miscible with both oil and water, a water-soluble film-forming agent comprising polyvinyl alcohol, and an emulsifying agent, the total amount of emulsifying agent not exceeding about 1%, the resinous material and the solvent therefor being in the dispersed phase, and the film-forming agent and the emulsifying agent being in the continuous water phase.

No. 2,565,175. Manufacture of Wood Preservatives, patented by Bror Olof Hager, Stockholm, Sweden. The patent covers a method of producing a preservative for the treatment of wood and other organic materials subject to attack by wood-destroying fungi, termites, other insects and marine borers, which comprises bringing together in an aqueous system a hexavalent chromium compound of at least one metal of the group consisting of calcium, strontium and barium, a pentavalent arsenic compound and at least one compound of the group of salts consisting of sulphates and carbonates of a metal selected from the group consisting of zinc, copper, aluminum, magnesium, cadmium, manganese, iron, mercury, chromium and nickel, adding the compounds in such proportions as to hold the resulting difficultly soluble arsenates of the last mentioned metals in solution but to precipitate the resulting more difficultly soluble salts of the group consisting of sulphate and carbonate of the metals of the group consisting of calcium, barium and strontium, and removing said precipitate.

No. 2,564,664. Insect Repellents, patented by Paul D. Bartlett, Weston, Mass., and Hyp J. Dauben, Jr., Seattle, Wash., assignors to the United States of America as represented by the Secretary of the Army. An insect repellent composition is described comprising a compound selected from the group consisting of hydroxy citronellal and hydroxy citronellal dimethyl acetal in a non-toxic, non-gaseous inert organic carrier which is non-injurious to the human skin and to fabric.

(*Turn to Page* 110)

SOAP PLANT OBSERVER

By John W. McCutcheon

GLYCERINE recovery from the point of view of a soap boiler contemplating recovery by means of ion exchange was discussed in this space last month. It was shown that ion exchange has interesting possibilities when the lye is first concentrated to remove about 90% of the salt, so that the load on the ion exchange cells is brought within reasonable limits. This involves two concentrations: one in an ordinary evaporator equipped with salt box, and a final concentration to CP glycerine of the dilute, comparatively salt free solution after passage through the ion exchange chambers. The saving in this case is effected through the reduced loss of glycerine in the foots from ordinary distillation. The capital expenditure would run about the same.

Let us now examine the recovery of glycerine from fatty acid splitting processes. In the continuous process, catalysts may or may not be used and the glycerine sweet water may or may not be flash evaporated to crude directly from the reaction tower depending on the temperature and pressures involved. In any case, sweet water, unlike soap lye glycerine is free or comparatively free of salts and, for that reason, is in a very favored position for ion exchange recovery. No costly pre-concentration is necessary as for a soap lye, so that the ion exchange equipment takes the place of both the ordinary salt box evaporator and the still. To reduce the load on the ion-exchange resins it is advantageous to treat the lyes for removal of residual fatty acids, coloring matter and mineral acids, if present. The most difficult material to handle is probably that derived from the Twitchell process where one to two percent of free mineral acid must be removed. This is commonly done by adding lime to convert the sulphuric acid to calcium sulfate, followed by the addition of soda ash to convert the dissolved calcium sulfate to the more

MR. McCUTCHEON

insoluble calcium carbonate. For example, 1000 pounds of a 15 percent glycerine sweet water containing two percent sulfuric acid, is treated with 18 pounds of slaked lime and filtered to remove the unreacted lime and calcium sulphate formed in the neutralization. About two pounds of calcium sulfate remain dissolved in the water which is removed by the addition of about 1½ pounds of soda ash and filtering, since the resulting calcium carbonate is about 100 times as soluble in water as the sulfate. About two pounds of sodium sulfate are formed by this metathesis, representing about 0.2 percent salt which requires removal by the ion exchange resins. This is about one sixth as much salt as would be found in a diluted soap crude of equivalent glycerine concentration. If passage through each set of anion and cation exchange chambers removes 90 percent of the salt, three passes would reduce the total ash to less than two PPM.

The above indicates, several things; first, that the ion exchange process for glycerine recovery is far more attractive for the fat splitter than for the soaper; secondly, that the treatment of the sweet water is necessary and important. Since two filtering operations are being employed, the removal of coloring matter by the addition of a bleach is advisable.

A few points in regard to ion exchange methods, however, still require some elucidation where the quality of product is concerned. Undoubtedly certain data along these lines will be made available as the requirements arise. For example, impurities such as the glycols, present to some extent in glycerine, would not be removed as easily by ion exchange methods as by distillation. The point to remember here is that glycol removal is not generally practiced even by companies who have such equipment installed. Generally a high glycol content of a crude glycerine is traceable to poor storage under conditions of fermentation.

Odor of refined glycerine is another point the status of which is not clearly defined by ion exchange versus distillation methods. These odors are traceable generally to the presence of low molecular weight fatty acids or rosin acids. It is difficult, for example, to make a high pharmaceutical grade of glycerine from coconut oil stock or from soap lyes where rosin has been used in the kettle. Proper treatment of sweet water and lyes goes a long way, of course, in preparing quality glycerine. The organic residue on the crude, for example, should be low, preferably under one percent. For highest quality however, the lyes should be segregated and only those used which are free from rosin, oxidized oils and coconut class oils. It is not difficult by distillation means to overcome some of the deficiencies of the crude, when preparing high grade odorless glycerine. For example, on the second distillation the addition of a little acid will allow a good deal of the odor causing materials to distill off. By rejecting the first third of the batch, and then continuing the distillation under strongly alkaline conditions, a great improvement in the

quality of the glycerine will be noted. This and other devices are special problems not commonly encountered and, therefore, not of dire importance generally. When such problems do arise with ion-exchange recovery methods, it is quite possible that new type resins will be available which will provide the necessary solution.

* * *

A recent bulletin from Nihon Yush Co., largest soap producers in Japan, has a few interesting points. Rescinding of price control in December 1950 caused spirited competition in the oil and fat field, which was only stabilized by an improvement in the import situation. Business was up 29% in 1950 over 1949 although actual plant capacity far exceeded actual production. Per capita consumption of soap in Japan in 1950 was only 2.3 lbs. as compared to 24.6 lbs. in America. An alkyl aryl based synthetic detergent called "New Rex" is being test marketed by the company and shows promising results. The great difficulty Japan has in the importation of know-how from America is caused by the great difference in exchange, which is about 500:1. Profits for example for the 6 months ending May 31, 1951 were 242,828,643 yen (approx. $485,657) of which 82,000,000 ($164,000) went for taxes. Sounds familiar!

"Cold-Pro" Shellac Booklet

A completely illustrated booklet on its plant and facilities for producing its "Cold-Pro" shellac by a new bleaching method was announced recently by Acme Shellac Products Co., Newark, N. J., importers, bleachers and manufacturers of shellac. The theory behind the new method of shellac bleaching, according to the manufacturer, is that heat is harmful to shellac and that by maintaining the shellac as cold as possible throughout the bleaching process it is greatly improved as to color, toughness, body, cutting time, solubility and stability. The method also permits better control of wax content, melting point and acid content, according to the booklet. Chilling, drying, packaging and various other steps in the new method of processing shellac are shown.

New Stokes Brochure

A new brochure bearing the title, "Complete Vacuum Processing Systems," was issued recently by F. J. Stokes Machine Co., Philadelphia. The 12-page catalog describes, illustrates and gives complete specification tables on many types of vacuum equipment widely used in industrial processes. These include: rotary and rotating vacuum dryers, vacuum shelf dryers, freeze drying equipment, impregnators, extraction and solvent recovery apparatus and vacuum pumps. A copy of the new publication, Catalog No. 715, is available by writing the company at 5600 Tabor Road, Philadelphia 20, Pa.

New Multi-Clean Folder

A six-page, two-color folder on its line of floor machines and attachments was issued recently by Multi-Clean Products, Inc., St. Paul, Minn. The illustrated folder will fit a salesman's catalog or standard 8½ x 11 inch loose leaf binder. In this respect it replaces several single page catalog sheets on various Multi-Clean products. The new catalog has been printed in two editions. One is designed as a self-mailer by the Multi-Clean distributor and has space for the customer's name and address, and the dealer's imprint. On the other edition, this space is occupied by a cataloging of Multi-Clean's line of floor chemicals. Details and specifications of the all-purpose scrubber and the nine-job floor machine are given. The firm's vacuum cleaner and attachments for both the vacuum and the scrubber and floor machine are also shown and described, as is the "Multi-Clean Lite-12" machine.

Filter Paper Catalog

A 36-page catalog of analytical filter papers, which in addition contains information on chemical analyses and biological procedures, was issued recently by Schleicher & Schuell Co., Keene, N. H. Besides detailed descriptions of the firm's complete line of filter papers and accessories, the catalog includes a 12-page reference table for filtrations in methods of inorganic analysis. Also given are literature references to Government publications dealing with analytical filtering, methods for testing filter paper, etc. Copies are available by writing the company in Keene.

Livestock Pest Control

A bulletin, "No. 204 How to Control Flies and Other Livestock Pests with Lindane," was issued recently by the agricultural chemicals department of Pennsylvania Salt Manufacturing Co., Philadelphia. The booklet lists in chart form the host animal, pests which may be controlled with lindane, the recommended concentrations and suggestions for application. A similar booklet on controlling insect pests on livestock with alternate treatments of benzene hexachloride and DDT or lindane was also issued by Pennsalt. It lists suggested combinations of the insecticidal materials for a number of pests common to livestock.

D. R. Horgan Is Dead

Dennis R. Horgan, 60, for many years active in the vegetable oil trade as a dealer and broker, died Oct. 28, in New York. He was a member of the former concern of Frey & Horgan, New York brokers in vegetable oils, tallow and grease.

Nigeria Palm Oil Exports

Exports of palm oil from Nigeria during the first six months of this year amounted to 85,915 short tons, as compared with 82,574 short tons for the first half of 1950. Palm kernel exports for the first half of 1951 were somewhat under the 1950 first half year totals, however. The figures were 182,000 short tons for 1951, as against 192,500 tons in the previous year's comparable period.

Most of the Nigerian palm oil (83,344 tons) went to the United Kingdom. The U. K. received 176,280 tons of palm kernels from Nigeria.

The Nigerian Palm Produce Marketing Board from the first of this year through July 12 purchased 128,223 tons of palm oil and 241,242 tons of palm kernels. Total 1951 purchases are expected to be about the same as those for 1950.

New Patents

(*From Page 105*)

patented by Nathan L. Drake, College Heights, Md., and Warren E. Weaver, Washington, D. C., assignors to the United States of America as represented by the Secretary of the Army. Patented is an insect repellent fabric comprising fabric impregnated with the tetrahydrofurfuryl ester of 1-acetoxy cyclopentanecarboxylic acid.

No. 2,564,855. Insecticidal Compositions, patented by Loren L. Neff, Long Beach, and Elvin L. Wampler, Anaheim, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California. A pest control composition is described containing water, a wetting agent, and a pesticidal amount of a beryllium chelate salt of a beta-diketone.

No. 2,563,815. Production and Separation of a Pentachlorophenol, patented by Everett A. Bruce, Paoli, Pa., assignor to The Pennsylvania Salt Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania. In the process for production of pentachlorophenol or its salts that involves hydrolysis of hexachlorobenzene, the patent describes the improvement that comprises incorporating with the hydrolysis reaction product, in the form of its alkali metal salt, at least the volume of water needed to dissolve the water-soluble portion of this material, and adding a sufficient amount of inorganic salt having a water-solubility at least as great as that of sodium chloride to form a solution at least half saturated with respect to the inorganic salt, maintaining the pH of the resulting mixture on the alkaline side, and separating the high quality alkali metal pentachlorophenate that precipitates in this mixture.

No. 2,564,714. Insect Repellents, patented by Melvin S. Newman, Columbus, Ohio, assignor to the United States of America as represented by the Secretary of the Army. A composition is described for imparting insect-repellency to a fabric, comprising 3,4-dihydro-5, 8-dimethyl-naphthalenone-1 in an inert nongaseous organic solvent.

No. 2,564,606. Insecticidal Compositions, patented by Joseph Henry Percy, Woodmere, N. Y., and Herbert Frank Neumann, South Orange, N. J., assignors to Colgate-Palmolive-Peet Company, Jersey City, N. J., a corporation of Delaware. The patent covers an insecticidal composition adapted for dispersion in water to form a spray for plants consisting essentially of an organic insecticide, an emulsifying agent and a liquid fatty acid monoester of a polyhydric compound, said insecticide and emulsifying agent both being in solution in said monoester.

No. 2,563,832. Insect Repellents, patented by Marshall Gates, Bryn Mawr, Pa., assignor to the United States of America as represented by the Secretary of the Army. An insect repellent composition is described comprising the ethyl ester of alpha-methyl-beta-hydroxy-beta-phenyl propionic acid in a non-gaseous inert organic carrier.

No. 2,564,665. Insect Repellents, patented by Paul D. Bartlett, Weston, Mass., and Gilbert Forrest Woods, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Army. The patent describes an insect repellent composition comprising a compound selected from the group consisting of 1-(2'-hydroxy-cyclohexyl)-1-butanol and 1-(2'-hydroxy-cyclohexyl)-2-methyl-1-propanol in a non-gaseous inert organic carrier.

New Trade Marks

(*From Page 75*)

N. Y. Claims use since May 28, 1945.

Ultron—This for cleaner for mechanical dishwashing having water conditioning properties. Filed Feb. 9, 1949 by Eastern Chemical Corp., Reading, Pa. Claims use since Sept. 1, 1948.

Parnol—This for sodium salt of dodecyl benzene sulfonate which is used as a detergent. Filed June 8, 1949 by Jacques Wolf & Co., Clifton, N. J. Claims use since Jan. 28, 1949.

See-Bac—This for bacteria culture medium disposed in a sterile container and intended for use in determining quantitatively the bacterial population on a chosen surface. Filed Dec. 22, 1950 by Garden State Dairy Laboratory, Irvington, N. J. Claims use since Dec. 5, 1950.

Tomorin—This for preparation for destroying vermin, and for rodenticide and disinfectant. Filed Feb. 2, 1951 by Geigy Co., New York. Claims use since Jan. 11, 1951.

Deodispray — This for deodorant and disinfectant. Filed Feb. 8, 1951 by Undertakers Supply Co., Chicago. Claims use since Nov. 30, 1950.

V Virginia — This for insecticides. Filed Feb. 12, 1951 by Virginia Smelting Co., West Norfolk, Va. Claims use since Jan. 19, 1946.

Sani-Mist — This for solution formulated as prophylaxis for athlete's foot. Filed Jan. 12, 1951 by Sani-Mist, Inc., Philadelphia. Claims use since Nov. 13, 1950.

J & J—This for antiseptics. Filed Nov. 12, 1948 by Johnson & Johnson, New Brunswick, N. J. Claims use since June 20, 1913.

Chloro-Balm — This for fungicidal and antiseptic preparation for treating fungus and bacterial infections of the body. Filed Jan. 30, 1951 by Scientific Solutions, Inc., West Palm Beach, Fla. Claims use since Dec. 12, 1950.

Kao—This for tooth and denture powder. Filed Nov. 17, 1950 by A. L. McDonald, Milford, U. Claims use since July 1, 1950.

X. L.—This for soap. Filed July 29, 1947 by Armour & Co., Chicago. Claims use since 1920.

Savemaster—This for general cleaning compound comprising granular material and soap. Filed Feb. 10, 1949 by Century Metalcraft Corp., Los Angeles. Claims use since Mar., 1948.

HCX-322 — This for detergent for general cleaning purposes. Filed Jan. 3, 1950 by Allied Chemical & Dye Corp., New York. Claims use since 1948.

Workable Wall—This for liquid cleaning compound for walls, floors, woodwork, etc. Filed Jan. 25, 1950 by Globe Cleaning Co., Mansfield, O. Claims use since Nov. 24, 1949.

Blankot — This for cleansing and revitalizing compound for use on printing ink transfer surfaces for removing dirt therefrom. Filed Apr. 1, 1950 by Martin Driscoll & Co., Chicago. Claims use since June 24, 1929.

Tona-Fome — This for hair shampoo preparation. Filed May 13, 1950 by Madison Salons, New York. Claims use since Dec. 15, 1947.

Sanikleen — This for chemical preparation used as a combined odorless general purpose cleaner and sanitizer. Filed Aug. 19, 1950 by West Disinfecting Co., Long Island City, N. Y. Claims use since Aug. 1, 1950.

Flick — This for toilet bowl cleaner. Filed Nov. 16, 1950 by Service Industries, Philadelphia. Claims use since Nov. 14, 1950.

To GMA Traffic Committee

R. E. Crowley, director of traffic for Colgate-Palmolive-Peet Co., Jersey City, N. J., is serving as a member of the recently expanded membership of the traffic committee of the Grocery Manufacturers of America.

Flobar to Incorporate

Articles of incorporation were filed recently with the office of the secretary of state, Albany, N. Y., for Flobar Sales Co., New York. The company produces a cream soap dispensed from plastic containers. Capital stock was listed at 1500 shares. Directors are Charles A. Hindman of 10 W. 47th St., New York, and Barton and Florence Nelson Smoot, both of 601 19th St., N. W., Washington, D. C.

SANITARY PRODUCTS SECTION

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties


when it
smells better...
it sells
better!
INSECT KILLER
AEROSOLES
KEREX
RE-ODORANTS
First choice for pleasantly perfuming bulk and hand spray insecticides at a cost of...
LESS THAN 2¢ PER GAL.
FELTON
Quality

New "FREON" AEROSOL Reveals Continued

MUCH ENLARGED STUDY TELLS WHAT DEALERS, URBAN AND FARM CONSUMERS THINK OF AEROSOLS

Just completed . . . the 1951 "Freon" aerosol market survey, greatly enlarged in scope, shows for the fifth consecutive year an impressive increase in the nationwide distribution and sale of pressure-packed products.

It's an entirely new study . . . the fifth conducted annually by the Du Pont Company, makers of "Freon" safe propellents used in the manufacture of most aerosols. The survey is the only one of its kind and is conducted as a service to the aerosol industry. It gives a clear-cut picture of the current market for this relatively new type of product packaging.

MORE THAN 2000 DEALERS INTERVIEWED

To obtain aerosol market data of timely interest and value, carefully selected questions were asked during personal interviews with buyers, managers and owners of 2,018 retail outlets for aerosol products in 42 cities. This dealer survey, conducted by a nationally known research organization, gives the answers to many pertinent questions. It provides an excellent cross-section of dealer attitudes toward aerosol products. It reflects the opinion now existing in department, drug, grocery, hardware, variety, service station and 5 and 10¢ stores throughout the country.

Tabulations indicate the percentage of dealers now stocking aerosol products. Customer objections are listed. And dealer views with respect to aerosol manufacturers' advertising and promotion are also recorded.

WHAT CONSUMERS THINK

It's a complete picture. The fifth nationwide survey

DU PONT
REG. U. S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

"FREON" SAFE

MARKET SURVEY *now ready!*

Upward Sales Trend

of the aerosol market also analyzes the consumer field . . . tabulates what more than 2,300 consumers and non-consumers think about pressure-packed products. It covers typical markets in all 48 states and for the first time, the survey also includes a report on farm or rural users of aerosols. It lists various kinds of aerosols that consumers have tried . . . when and where they were bought . . . why consumers like or dislike aerosols . . .

what other methods of dispensing they have used . . . which they prefer.

A WEALTH OF INFORMATION

These surveys contain a wealth of up-to-the-minute data about aerosol products. It's information that may well influence important manufacturing, distribution and marketing decisions. If you are at present producing aerosols, or are contemplating pressure-packaging one or more of your products . . . you'll find this study of invaluable help.

HIGHLIGHTS OF THE SURVEY

You can be among the first to obtain a comprehensive outline of these new facts about the aerosol market by attending an introductory report, to be given at 10:30 A. M., Monday, December 3, at the Chemical Specialty Manufacturers' Association Convention, in the Mayflower Hotel, Washington, D. C.

Be sure to hear it and to visit "Freon" headquarters in our suite at the Mayflower Hotel during this important convention. If you are unable to attend the meeting, a digest of the new survey can be sent you as soon as it is ready for distribution. Write for a copy now.

"KINETIC" TECHNICAL SERVICE ALSO AVAILABLE

Manufacturers planning to enter the aerosol market by producing one or more pressure-packed products are invited to consult Du Pont ("Kinetic" Chemicals Division) technical service. We will gladly assist you in every step from market exploration to production operations. No obligation on your part.

"Package for Profit," a 32-page book of information about the aerosol market and use of "Freon" safe propellents, will also be sent upon request. Address: E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.

"FREON" PROPELLENTS WIDELY USED

Most pressure-packed products on the market today contain "Freon" propellents. There are many good reasons why. "Freon" propellents are safe . . . nonflammable, nonexplosive, virtually nontoxic, readily adaptable to almost all types of aerosols, chemically pure and 100 per cent dependable.

PROPELLENTS

KINETIC
REG. U. S. PAT. OFF.

"FREON" is Du Pont's registered trade-mark for its fluorinated hydrocarbon propellents.

Washburn DEEP TONE Cleaner

WETTING ACTION allows deep penetration and close contact with dirt particles.

EMULSIFYING ACTION loosens up oily, greasy, non-soluble substances.

DISSOLVING ACTION breaks down mineral salts, sugars, all soluble materials.

FLOATING ACTION keeps all solids in suspension so dirt floats away.

Distributors, here's a bett_r faster liquid cleaning compound that will put you in a position to really *get more business.*

OUTCLEANS ALL THE REST

Deep Tone is a safe, dependable cleaning compound of effective detergents, emulsifiers, phosphates, carbonates and other chemicals combined in a carefully balanced formula. It possesses a clean, rich, greenish-yellow fluorescent color and a *pleasant, cedar fragrance.* Also made in concentrate form.

NON-TOXIC
NON-IRRITATING
NON-SKID
NON-INJURIOUS

Deep Tone does an excellent cleaning job with a minimum of effort or skill

Regional Warehousing to Save Shipping Costs

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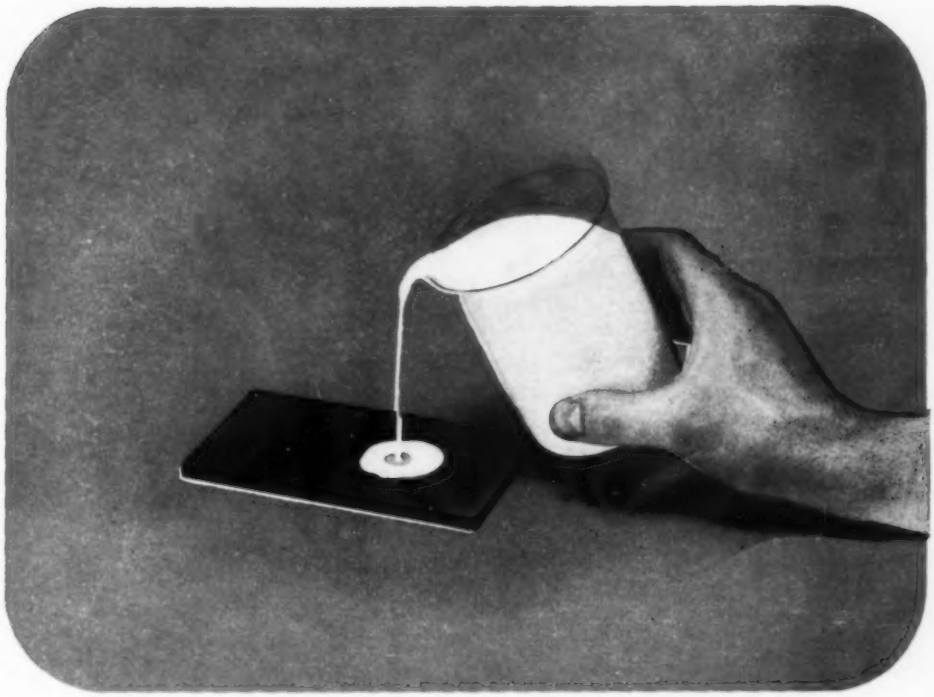
prove it... *with the glass panel test:*



CARDIS* *can improve your wax product!*

We invite you to compare the quality of Warwick's Cardis with *any* wax you may now be using. You'll agree at once that Cardis is unexcelled for —

- PLASTICITY without decreasing the melting point
- HIGHER GLOSS
- BETTER WEAR RESISTANCE
- GREATER TOUGHNESS
- ANTI-SLIP CHARACTERISTICS
- STABILITY

Ask for our formulations for carnauba-free emulsion polishes.

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WAX COMPANY, INC., SUBSIDIARY
CHEMICAL CORPORATION

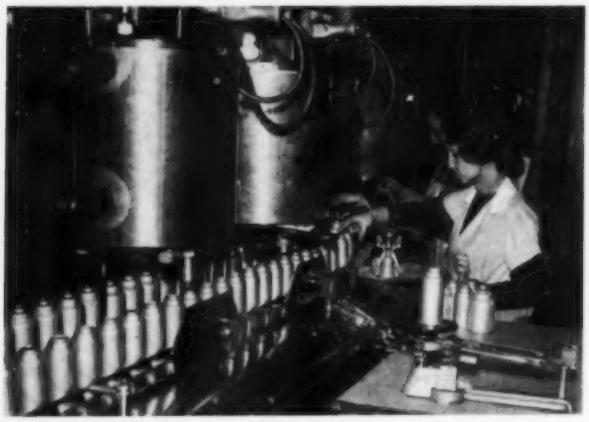
*TRADE MARK REG.

10th Street and 44th Avenue, Long Island City, New York • *Refineries:* Chanute, Kansas • Kilgore, Texas

Anyone can fill Containers.

But-

SATISFYING AEROSOL PACKAGING REQUIRES TECHNICAL "KNOW-HOW"



There's no substitute for experience in satisfactory packaging and filling —no substitute for expert technical "know-how" with an engineering approach —and we have ample of both

WE'VE FILLED MORE THAN 101 MILLION CONTAINERS IN THE PAST 30 YEARS

. . . for large nationally known concerns, medium size and even smaller companies. These satisfied users of FLUID CHEMICAL CO. services are the cornerstones of our healthy growth, expansion of modern high speed equipment and increased facilities.

NOTE THESE IMPORTANT FACTS

AEROSOL PACKAGING—Daily capacity 50,000 units. Equipped to handle any size contract—any type of Aerosol.

LIQUID FILLING—Daily capacity 200,000 units. Can handle any size runs, any size container (from a vial to a gallon).

FORMULATION, COMPOUNDING—Laboratory Control. Private label packaging.

MATERIALS HANDLING FACILITIES—Centrally located in Eastern Market Area. Warehouse capacity over 40 freight cars on our own Erie R. R. siding. Modern motorized handling equipment.

Since we manufacture no products of our own we can allocate our entire working day to you—our clients.

What is your packaging or filling problem? Our research laboratory solicits your inquiry, without obligation.

FLUID CHEMICAL COMPANY, INC.

Private Label Packaging, Formulating, Compounding

Since 1921

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outstanding

for dependable quality and uniformity

PICCO

SOLVENTS AND SOLVENT OILS

Hi-Solv Aromatic Petroleum Naphthas
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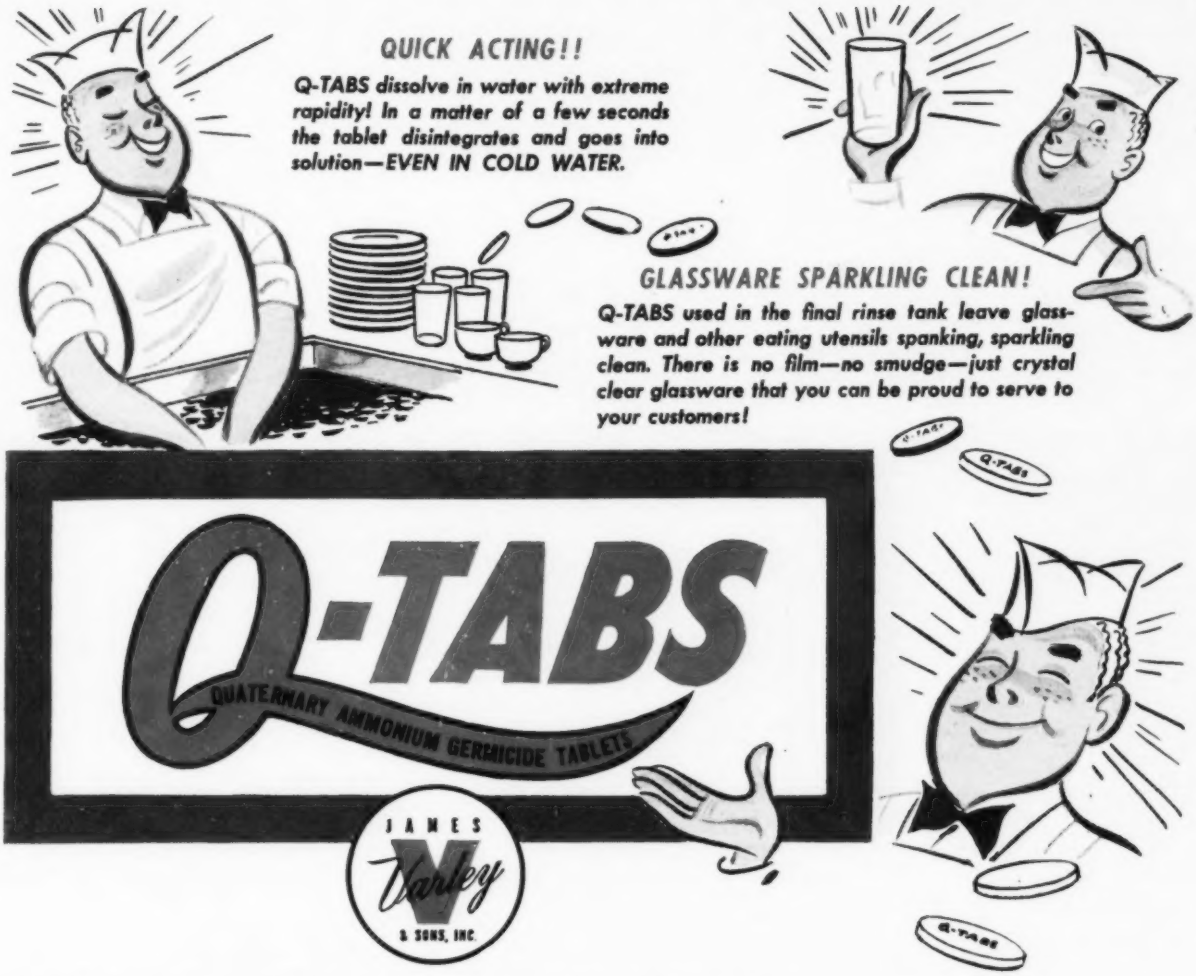
PICCO Coal Tar Heavy Naphthas
Hi-Solv Solvent Oils · PICCO Heavy Oils

Write for factual bulletin describing Picco Solvents and Solvent Oils. We will gladly send samples. Specify application, so we can furnish suitable grade.

PENNSYLVANIA INDUSTRIAL CHEMICAL CORP.
Clairton, Pennsylvania
Plants at CLAIRTON, PA.; WEST ELIZABETH, PA.; *and* CHESTER PA.
Representatives in Principal Cities



THE MODERN SANITIZER FOR ALL GLASSWARE and UTENSILS

Users of Q-TABS have the benefit of using the *finest quaternary ammonium tablet on the market!* Saves time — saves labor — saves effort — saves breakage — saves handling — saves transportation cost — and last but not least important, saves money! Q-TABS are more economical to use because there is no waste from over-dosage, broken bottles, spilled liquid, etc. So next time you need a sanitizer, don't ask for "a quaternary ammonium compound" — INSIST ON Q-TABS — THE FINEST OF THEM ALL ! !

James Varley & Sons INC.

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A smile of satisfaction on your customer's face means PRODUCT ACCEPTANCE . . . REPEAT SALES . . . and that weighs dollars!

Insecticides . . . household deodorants . . . aerosol products can produce this smile through the appeal of odor. It's perfume that does it! . . . Perfume carefully designed to mask and cover where necessary . . . to disappear completely when its job is done . . . the proper type to suit the use AND THE USER.

Send us a sample of your product, unperfumed. Perfume chemists, skilled in this particular job, will develop and suggest an ideal perfume to meet your requirements . . . odor appeal to bring out that vital smile of satisfaction.

MANUFACTURERS AND CREATORS OF THE FINEST PERFUME MATERIALS

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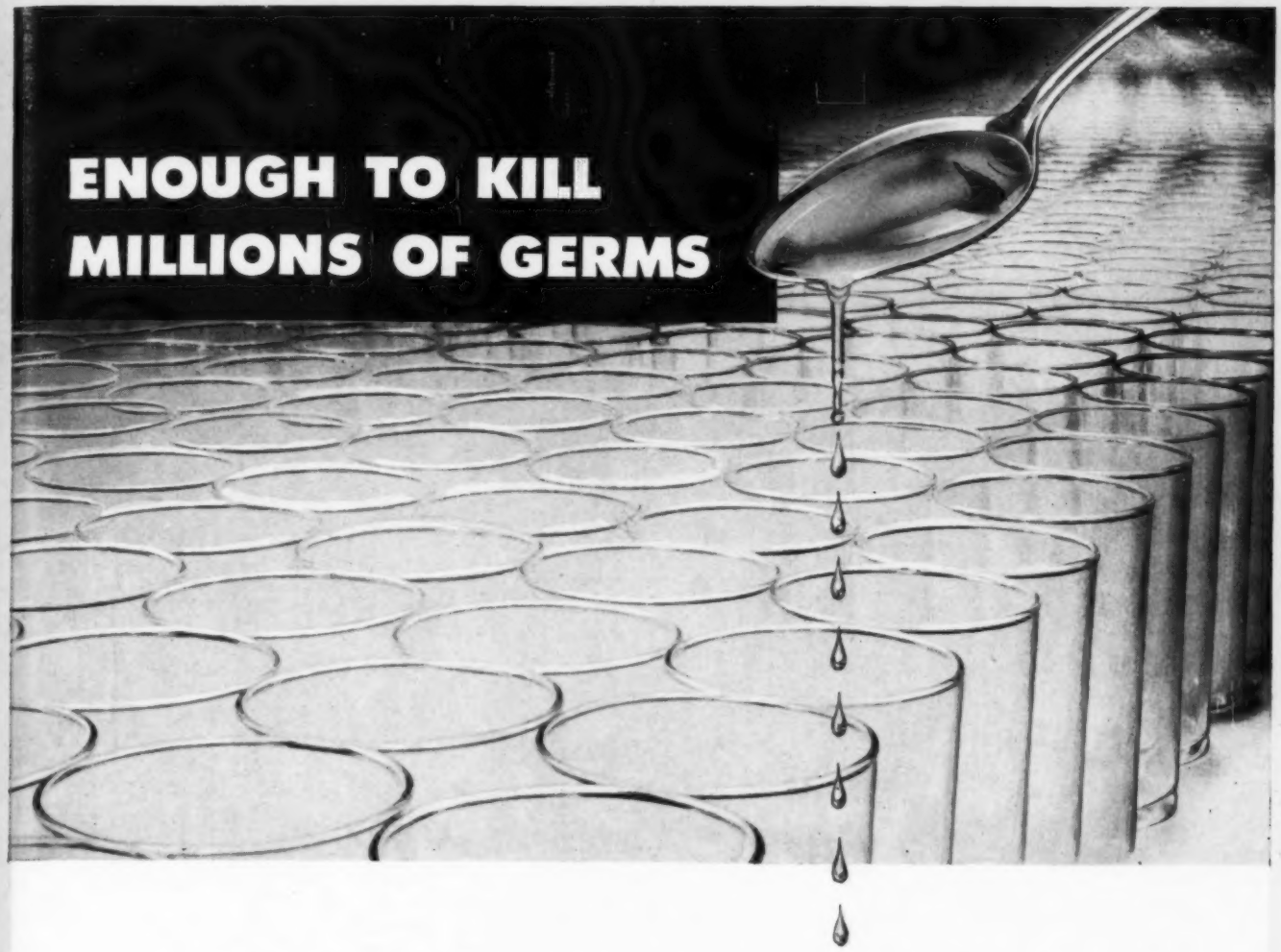


HYAMINE 2389

. . . . . only one teaspoonful of HYAMINE 2389 (50%) is enough to kill millions of germs.

HYAMINE 2389, a quaternary ammonium bactericide, is *economical* because of its low cost and germicidal potency at high dilution. Its germ killing power under adverse inhibiting conditions is outstanding.

HYAMINE 2389 in your liquid or powder sanitizers will insure repeat orders from restaurants, hospitals, janitor services, barber and beauty shops, laundries, home owners, etc. Take advantage of the *non-irritating* and *odorless* qualities of HYAMINE 2389 and please your customers.

For sanitizer repeat sales—use HYAMINE in your formulations.

HYAMINE is a trade name Reg. U.S. Pat. Off. and in principal foreign countries.

CHEMICALS FOR INDUSTRY

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

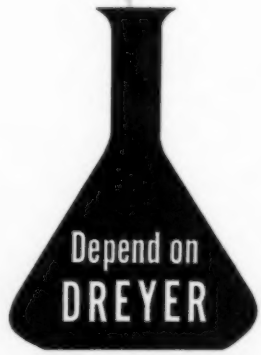
Representatives in principal foreign countries

Why are these two fingerprints like **DREYER SYNTHETIC SCENTS?**

It's hard to tell one from the other. It's often as hard to distinguish between a Dreyer Floral Scent and the original natural flower odor it so successfully re-creates.

Dreyer Floral Essences seem to last even longer than the best odors Nature produces. They are notably more uniform, too—easier and more stable to work with, and plan with.

Produce quality perfumed lines for less, by using Dreyer Essences. Dreyer prices are fairly figured—to keep your everyday profits higher. See what Dreyer really can save you—send for good-sized samples today.



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P. R. DREYER Inc.

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BIGGEST WAX NEWS IN YEARS!

Concord introduces

a versatile, easily-emulsified, uniform-quality wax

at a price that brings welcome savings

CONCORD WAX #407

47¢ PER POUND

FOB—Moorestown, N. J.

Figures, not words, write the headlines of this new, sensational Concord Wax development!

Refined Candelilla Wax	**Melting Point 71°C.**
#3 N. C. Refined Carnauba Wax	**Melting Point 81/84°C.**
REFINED CONCORD WAX #407	**MELTING POINT 86°C.**

Just figure the savings now possible through the use of Refined Concord Wax #407 at 47¢ per pound . . . compared with #3 N. C. Carnauba Wax at more than $1.20 per pound or Candelilla Wax at more than 75¢ per pound.

Concord Wax #407 makes a water-wax emulsion that is translucent, light in color, absolutely stable. This emulsion has fine particle dispersion, excellent gloss, superior wearing and anti-slip qualities. Ideal for floor waxes, paper sizings and coatings, fruit dips, leather dressings, leather finishes, and many other uses!

Send coupon now for samples of the new wax *and* of emulsion. Test! Compare results with other waxes at double the price or more!

CONCORD CHEMICAL COMPANY

Moorestown, New Jersey

I understand that your new Refined Concord Wax #407 with a Melting Point of 86°C. is available at only 47c per pound. Please send me, without charge, a sample pound of this wax and a sample of emulsion made with #407. Send technical data sheet also.

NAME.....

COMPANY.....

ADDRESS.....

SANITARY PRODUCTS
A SECTION OF SOAP

CURRENTLY, some six hundred members and guests of the Chemical Specialties Manufacturers Association are attending the 38th annual meeting of this organization in Washington. The rapid rate of new developments in all types of chemical specialties for the home and for industry, particularly over the past decade, has brought many changes and wide expansion in the activities of this association. Because it is through developments of this group that maintenance men of industry and the woman in the home have their most direct contact with chemistry and chemicals, these products probably are the ones which best illustrate to the general public new chemical progress. In some ways, this is good, and in others, not so good.

Lots of hocus-pocus gets by in the public mind under the guise of "chemistry." Unscrupulous marketers take advantage of a smattering of public knowledge of some basic developments and use this to exploit phoney products. The sound, well-developed product and its honest manufacturer suffer as a consequence. The opportunity for a quick buck to be made "chemically" or likewise is very often a strong temptation. Sometimes reputable firms in self defense practically are forced to market products to meet such competition which they otherwise would not put out. However, we never have appreciated the wisdom of any such moves and have seen some of them backfire badly.

To sift the chaff from the wheat, to put the phoney quick-buck product off the market and hence raise quality standards and public acceptance for the industry as a whole long has been one of the aims of CSMA. In that direction, we feel that numerous manufacturers have been prevented from going off the deep end on a wrong product by frank and open discussions at meeting sessions or through advice of CSMA colleagues. Others, we know, have withdrawn products from the market in line with CSMA meeting discussions and avoided what could have been serious later difficulties. So, the good work goes on, deserving the support of every reputable manufacturer in the field.

CHEMICAL poisoning plays an extremely minor role as the cause of death in the United States. In spite of the great increase in the number and tonnage of toxic compounds used by industry and agriculture, no significant change in the rate of fatal accidents due to chemical poisoning has taken place during the past decade. The death rate caused by arsenicals and other older pesticides continues at about the same relatively low level as in 1940 before the introduction of the new materials. As a cause of death, alcoholism as an example causes 25 times as many deaths as all kinds of poisoning. Compared with automobile accidental deaths, chemical poisoning represents only a minor fraction of one per cent.

This information just assembled from the records of the U. S. Public Health Service and presented by Drs. Simmons and Hayes before the annual meeting of the Chemical Specialties Manufacturers Association is significant in the light of official talk and action in Congress and elsewhere in Washington today. It might well indicate that the "chemical" hearings, both previous and current, have but little justification for their heavy expense to the taxpayer, that their possible value to the public is infinitesimal. And as we have noted before, it would appear that some congressmen continue to "strain at a gnat, but swallow a camel."

Sweeping Compounds

By Milton A. Lesser

SWEEPING compounds are among the most familiar materials used in the sanitary maintenance of floors. They are especially valuable for sweeping large areas where many people walk in all kinds of weather, such as railway platforms, public buildings, libraries, theaters and certain industrial plants. Because large quantities of sweeping compounds are used each year, cost is often a major consideration. However, as with other sanitation products, those who buy sweeping compounds have learned to balance quality and performance against price.

Whatever else they may do, sweeping compounds serve two main functions. First, they aid in the accumulation of fine dirt and, second, they minimize the raising of dust. During recent years, this ability to "lay" dust has assumed added importance as a public health measure and has heightened the importance of sweeping compounds, especially the oil-prepared types. (1) Investigations have shown that a film of oil on floors can cause a substantial reduction in the number of dust-borne bacteria. For example, in studies in an army camp, Feasby and Bynoe (2) found that there was a reduction in the number of cases of *hemolytic streptococcus* infection in barracks in which oiled sweeping compounds were used, as compared with quarters in which such means of dust control were not used.

Although, the importance of sweeping compounds has been increased by such findings, their value has been known for many years. Generations of housewives have used such things as tea leaves, pieces of wet paper, and salt to keep dust from flying about and so help do a better cleaning job. Even the modern housewife has been advised, via radio, to save her coffee grounds and tea leaves for use as sweeping aids to keep the dust from rising.

Obviously, commercial practices demand something more readily available in quantity at a reasonable price. Over the years, numerous sweeping compound formulas have been developed to meet this need. Basically, however, they are of two main types, namely the oil-containing products and those made with wax emulsions. As explained in the Federal Specification (P-S-863) covering such materials, the older oil type is suitable for use on wood, steel, terrazzo and other floorings which are not affected by compounds containing mineral oil. The more modern wax type of sweeping compound is employed on such floorings as linoleum, rubber, asphalt tile, and mastic which may be harmed by mineral oil.

Whatever the type, sweeping compounds should be formulated to meet certain basic performance requirements. According to Olcott, (3) the particles of a sweeping compound must be large enough to sweep easily, heavy enough not to scatter with the spring of the broom bristles, and wet enough to adhere to the dust and dirt with which they come in contact. Put another way, (4) the sweeping compound should not only absorb the dust on the floor, but it also should have the ability to separate when pushed across the floor with a floor brush so that the material will "roll" instead of matting together. It should be so formulated or processed as to be free of binding substances that cause matting or clumping.

In addition to being free from objectionable odor, the sweeping compound should not contain ingredients that will be harmful to humans or

which might prove injurious to the floor, surface finish or to the broom. Stability in storage is also a highly desirable characteristic. (5)

Oil Prepared Type

MANY materials have been employed in the manufacture of the oil-containing sweeping compounds. Although some fairly complex mixtures have been developed, the federal specification indicates that rather simple combinations of oil, sand and sawdust form effective sweeping compounds of the oil prepared type. According to this official standard, the material shall not give off flammable vapor when tested according to the specified method. Matter volatile at 105 to 110°C. should not exceed 12 per cent by weight. The proportion of refined mineral oil ranges from a minimum of 15 per cent to a maximum of 20 per cent. The content of clean, fine feldspar sand is not less than 35 per cent and not more than 50 per cent by weight. The remainder of the compound consists of sawdust, but the product must contain not less than 18 per cent of this finely ground material. The inclusion of artificial coloring material is optional. The odor of the compound must not be objectionable but, if desired, perfuming agents may be added.

Other more individual or more localized specifications for sweeping compounds sometimes closely follow those of the Federal Supply Service. For example, Specification 5-C-3: 50T, made effective on January 2, 1951, by the Department of Purchase of New York City, is practically identical, insofar as ingredients and proportions are concerned, with the federal specification. Other requirements are also very similar.

From the foregoing, it is evident that the chief raw materials of standard sweeping compounds are sawdust, sand, oil and perhaps a certain amount of moisture, with colors and perfumes as optional ingredients. Of course, various other substances may be added to impart certain desirable qualities or specialized properties to the sweeping compound.

Sawdust serves a number of functions in sweeping compounds. For one thing, it gives bulk to the product. For another, it serves as a base for retaining the oil and other materials included in the product. Furthermore, its large surface area provides an efficient means for absorbing and carrying away fine dust and dirt.

As a matter of fact, plain sawdust wet only with water is rather extensively used as a sweeping compound. (6, 7) Doring (8) mentions that fine hardwood sawdust, dampened with water just before using, is a good sweeping compound for wood or linoleum. More commonly, a fairly coarse grade of wet sawdust or wood chips is used for laying dust when sweeping concrete, wood and other heavy-traffic floors and stairs.

However, as noted by Kanegis, (5) a reasonably fine sawdust seems generally preferable in making prepared sweeping compounds. The federal specification, for example, requires that not more than one per cent of the sawdust in acceptable products shall be retained on a No. 8 sieve. Kanegis also points out that sawdust from many sources is finding its way into sweeping compounds; both hard and soft wood varieties being satisfactory. Where available, a cedar-base sawdust is often recommended because, in addition to its other properties, it has a pleasant odor and shows a moderate deodorizing action. Because of its greater absorptivity, kiln-dried sawdust is often considered superior to the undried varieties for formulating sweeping compounds.

Sawdust owes its leading position as a bulk component of sweeping compounds to the fact that it is generally available throughout most of the country and, as a rule, is reasonably priced. Sometimes, because of local availability, cost advantages or other considerations, other bulk materials may be used as partial or full replacements for sawdust. Ground peanut shells, dried and ground corn cobs, bran, and various seed meals are among the materials that might be used in this way. Indicative is the following formula for a sweeping compound: (9)

Mineral oil	30 fl. oz.
Sawdust	7 lb.
Ground oil cake	10 lb.
Linseed meal	5 lb.
Oil of eucalyptus	3 fl. oz.

Various industrial wastes have been suggested as suitable sawdust replacements. Sisal hemp tailings from cordage factories were once suggested (10) for this purpose. Later, in studies sponsored by the Cotton Research Foundation, Memphis, Tenn., Olcott (3) showed that cottonseed hull bran was particularly well suited for use as a sawdust replacement. He also developed and patented (11) the following highly efficient and broadly useful sweeping compound:

	per cent
Cottonseed hull bran	95.6
Paraffin oil	4.4

Of course it is similarly possible to make a sweeping compound by treating sawdust with oil. This can be done by adding one pint of paraffin oil to every 100 pounds of sawdust and mixing well. Adding an oil-soluble aniline dye to the oil before mixing imparts the desired color. Oil of cedar or oil of sassafras may be included to impart a pleasing odor. (12)

Role of Sand

HOWEVER, the addition of sand to sweeping compositions yields more rounded and more efficient products. As remarked by John, (13) sand is usually the main cleaning agent in these preparations; its action being essentially that of a mild tumbling abrasive. Sand also serves to combat the tendency for the compound to mat or clump. Because it also adds density to the product, sand helps to assure that it will "stay put" and not be blown about on windy platforms.

The government standard requires the use of a fine feldspar sand of which not more than one per cent shall be retained on a No. 20 sieve. However, the type of sand is not too important and the selection of this ingredient is generally based on local availability. Sea sand, for example, could be used in plants located in a coastal area. In any event, the sand should be well screened or sieved to remove gravel and coarser particles.

Sweeping compounds generally fall into two main types: oil containing products and those made with wax emulsions.

Function of Oil

OIL serves to moisten the sweeping compound and render it more coherent. Oil acts as the agent which "wets" the dirt and dust particles and makes them cling to the sawdust or other bulk component of the product. The thin film of oil left on the floor also contributes to the control of dust-borne organisms and hence to the reduction of air-borne infection.

Various oils have been tried for their value in sweeping compounds, but over the years the choice in most cases has been narrowed to light mineral oil, also referred to as paraffin oil. The federal specification, it should be noted, calls for the use of a refined mineral oil. Its acid number must not exceed 17 and the saponification number must not be greater than 20. In one discussion (14) on sweeping compound production, it was stated that a suitable paraffin oil would be equivalent to a light machine oil with a flash point of over 300°F. and under 450°F. Such an oil, it was explained, is light enough to mix well with the dry ingredients, but heavy enough to avoid evaporation. It also gives the requisite consistency to the compound for efficient sweeping and good dust absorption.

Although the less expensive grades of light oil find the widest use, medium grades, such as cylinder oils, and some of the heavier viscosity oils also find occasional employment. Fatty oils have no place in sweeping compounds. Volatile solvents should also be avoided because of the fire hazard they present. The government standards exclude materials which give off flammable vapors.

The proportion of oil in a sweeping compound is also an important consideration. In general, it may be said (15) that the amount of oil incorporated in the mixture is determined by the type and condition of the flooring upon which the sweeping compound is used. A higher proportion is employed for rough or unfinished floors. Conversely, small quantities are used where there is the possibility that the oil may injure or stain the floors. This possibility can be minimized, according to one report, (5) by holding the proportion of oil down to about 5 per cent to make so-called dry compounds. In most cases such an amount of oil should prove sufficiently effective for gathering dust and dirt without staining the floor.

Moisture Content

AS is indicated by the various specifications, a certain amount of moisture may be included in sweeping compounds. The presence of water in such a product augments its cohesiveness and dust-gathering properties. In addition, it reduces the fire hazard. Illustrating compounds made with water is the following formula, which is said (14) to be typical of commercial compositions:

	per cent
Clean sand	40
Fine sawdust	40
Paraffin oil	10
Water	10

Also indicative, and meeting the federal specification, is the following composition which, according to certain government agencies, makes a satisfactory sweeping compound:

	parts
Fine sand	35
Pine sawdust	40
Paraffin oil	15
Water	10

It is said (6) that this compound may be tinted with a suitable dye if desired. This, of course, brings up the factor of color in sweeping compounds. Obviously color adds distinction to a product, but the kind and amount of color should be such as not to stain floors and baseboards, even after continued use. Green and red are the colors most frequently used, but others have been employed with pleasing results.

Coloring Matter

IRON oxide, chrome green and other pigments are used to tint sweeping compounds. Water-soluble and oil-soluble dyes are also widely utilized for this purpose. Malachite green and croceine scarlet are often mentioned as suitable water-soluble dyes, while alizarin green and azo red are suggested for use with oils. Of course other suitable coloring agents are available from dyestuff manufacturers. Cummings (16) advises that, when water-soluble dyes are used, they should be dissolved in the water and the sawdust be colored first. This is followed by addition of the oil and sand. In the case of oil-soluble dyes, the oil is colored first and then mixed thoroughly with the sawdust; the sand being added afterwards. If pigment is used it may be added to either ingredient or gradually worked into the mixture. An example of a pigment-tinted sweeping compound is as follows: (17)

Sand	100 lb.
Sawdust	40 lb.
Paraffin oil	3 gal.
Venetian red or chrome green	1 lb.

In such compositions, as in all sweeping compound formulations, thorough mixing, in the right equipment, is essential to assure complete distribution of the dust-catching, coloring and perfuming agent.

While the use of an odorizing agent is optional, a compound of this kind is generally incorporated to impart a distinctive note or, quite probably, to cover the odor of various ingredients. Essential oils like sassafras, eucalyptus and cedar have long been used in this way. Pine oil is especially popular because it simultaneously provides a pleasing odor and an antibac-

terial effect. Synthetic perfuming materials are also coming into the picture. With today's emphasis on industrial odorizing agents, the commercial perfume houses should be helpful in formulating compositions appropriate to sweeping compounds. Illustrating the use of perfuming agents is John's (13) formula for a sweeping compound:

Sand	70 lb.
Sawdust	70 lb.
Mineral oil, thin	3½ gal.
Water	2 gal.
Oil of sassafras, artificial	¼ qt.

Though it is not mentioned in the federal specification and other standards, salt is a frequent and popular ingredient of sweeping compounds. Indeed, it is reported (18) that the Treasury Department at one time used a compound made from:

	parts
Sand	10.0
Fine sawdust	3.5
Salt	1.5
Paraffin oil	1.0

As a rule, coarse rock salt is preferred. Since it serves as a mild scouring agent, salt may replace all or part of the sand in a sweeping compound. This is illustrated in the following example: (17)

	parts
Sawdust	35
Rock salt	35-40
Mineral oil	25

It has also been suggested (5, 14) that, because it is hygroscopic, salt helps to retain and distribute moisture throughout the mixture. A number of other compounds, usually in aqueous solution, serve a similar moisture-retaining function in sweeping compounds, which are usually made without any paraffin oil. Among the materials used in this way are glycerine, magnesium chloride and calcium chloride. For obvious reasons of cost and availability, the calcium salt is the agent most commonly used. A typical formula, of British origin, (13) calls for the use of:

Sand	100 lb.
Sawdust	25 lb.
Water	1 gal.
Calcium chloride	7 lb.
Pine oil	½ gal.

These hygroscopic additions not only serve to retain moisture, but at the same time they help to reduce fire hazards due to excessive drying of the compounds. However, materials which function specifically as fire-retardants may be added to sweeping compounds. Agents of this sort include ammonium sulfate, monoammonium phosphate, diammonium phosphate, borax and the chlorinated paraffins. (5)

Other Ingredients

OTHER special ingredients are incorporated to provide certain effects. For example, materials like pine oil, phenol, creosote, para-chlormetacresol and related disinfectants may be included to provide an antibacterial effect. During the war, the British desired to make use of antibacterial and deodorant effects of formaldehyde in air-raid shelters and similar crowded places. To this end, there was developed a preparation which could be sprinkled on the floors of such areas and swept up after the occupants had left. The basis of this product was sawdust which was well mixed with 10 to 15 per cent of its weight of sodium sulfate powder. This was mixed with about 10 to 20 per cent of spindle oil and about five per cent of formaldehyde solution. The odor of the formalin was masked by adding one per cent of a suitable essential oil and the mixture was colored with a water-soluble dye. The result was a pleasant-looking, agreeably perfumed granular material that could readily be sprinkled on the floors of shelters, subway platforms and the like. (19)

A simple preparation of this sort, described as a floor disinfectant, is made from: (20)

Wood chips	88 parts
Formalin	10 parts
Color	1 part
Pine oil	1 part

Sometimes, perhaps in the hope of getting a degree of insect repellency, materials like naphthalene flakes or paradichlorobenzene are included in sweeping compounds. The latter ingredient is included in Belanger's (21) rather elaborate sweeping compound formula, given as follows:

Fine sawdust	100 lb.
Sea or lake sand	18 lb.
Salt	20 lb.
Paradichlorobenzene	3 lb.
Oil of cedar leaf	2 lb.
Pine oil	2 lb.
Paraffin oil	2 gal.
Oil-soluble aniline color	sufficient

Heat the paraffin oil and dissolve the color in it. While still hot, add the paradichlorobenzene, and after cooling somewhat, add the pine and cedar oil. Spray or sprinkle the oil mixture over the sawdust, mixing well, and then combine with the sand and salt.

Inclusion of Waxes

FOR a long time, attempts have been made to include waxes in sweeping compounds in the hope of improving their effectiveness. One approach to this problem was the replacement of part of the oil with paraffin wax or with beeswax. Thus, a frequently cited (9, 22) and still popular (23) product of this kind could be made from:

Sawdust, dry	10 lb.
Paraffin oil	32 oz.
Paraffin, hard	2 oz.
Salt, coarse	8 oz.
Sea sand	4 lb.
Oil of eucalyptus	2 oz.

Warm the oil, mix it with the melted beeswax and add the eucalyptus oil. Saturate the sawdust with the mixture and then add the salt and sand, with thorough mixing.

The greatest shortcoming of oil-containing sweeping compounds is the fact that they can stain or damage resilient flooring materials like linoleum, cork, mastic, rubber, asphalt and latex-bonded terrazzo. This difficulty was overcome when it was found that the oil could be replaced by

(*Turn to Page* 177)

Sand, the main cleaning agent, when added to sweeping compounds yields more rounded, more efficient products.

Relative Toxicity of Insecticides*

By Samuel W. Simmons[1] and Wayland J. Hayes, Jr.[2]

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IT is of great importance that we achieve a balanced view of the problem which is before us. This may be done in part by reviewing certain statistics on fatal chemical poisoning. Table 1 reveals that chemical poisoning occupies a minor place as a cause of death. Accidents of a mechanical nature are more common. Table 2 shows that there has been no significant change in the rate of fatal chemical accidents during the last decade. This may be somewhat surprising when one considers the rapid increase in the number and tonnage of toxic compounds which has taken place during this same period. The quantity of a few pesticides produced in the United States is shown in table 3. Table 4 shows that deaths caused by arsenicals and a few of the other older pesticides, chosen for purposes of illustration, continue to occur at about the same rate as they did in 1940 before the introduction of the newer pesticides. This is explained by the fact that the newer toxicants have not so much supplanted as supplemented the older ones.

The relatively good safety record of the older economic poisons is due in part to the fact that workers are aware of their hazard and have learned to treat them with respect. Unfortunately, a part of their reputation for safety depends on a passive acceptance of a small but continuing series of accidents. This same kind of careless thinking may lead one to ignore the importance of common household chemicals and non-prescription drugs as a source of danger. Accidents associated with these materials are much more frequent than those caused by economic poisons. A home accident survey conducted by the Accident Prevention Service, District of Columbia Chapter, American Red Cross, has illustrated this over a period of years. Of 287 cases of fatal and nonfatal chemical poisoning in which a definite cause was listed in 144 instances, six were caused by insecticides and eleven by rodenticides, while at least 22 were ascribed directly to kerosene and 31 to aspirin. Another good illustration of the danger of household chemicals is the study by Rubin and his colleagues[4], who showed that among 250 consecutive admissions for the ingestion of poisons, 21 per cent of the children studied had taken kerosene, while only 9 per cent had taken one of a variety of pesticides.

The facts which have just been mentioned we believe, should be viewed as a challenge to the medical profession and the pesticide industry to reduce these preventable, and therefore unnecessary, accidents. The solution of the problem will, in the long run, be benefited by a balanced perspective. Scare tactics may create a flurry of intense activity and may result in the correction of real abuses. However, there is such a thing as crying "wolf" too often, and those who resort to scare tactics frequently may end by losing the sheep and the shepherd boy as well.

New Pesticide Accidents

A BRIEF review of the accidents associated with the newer pesticides may now be made. Thirteen fatal accidents have been clearly associated with sodium monofluoroacetate (1080) and five other deaths may have been caused by it. There have been at least six nonfatal cases. The established fatalities have varied from one to five per year since 1946. Al-

* Paper presented at 38th annual meeting of C.S.M.A., Washington, D.C., Dec. 2, 1951
[1] Scientist Director — [2] Senior Surgeon.

[4] Clin. Proc. Children's Hosp. Washington, 5(3): 57-73, February, 1949.

though figures are not available regarding production or sale of the compound, it is clear that the amount is small as compared with some of the other pesticides, including parathion. Furthermore, it is only because of the unusually strict controls voluntarily imposed by the manufacturer that the record has been kept as good as it is. It is possible that the introduction of warfarin, a relatively safe rodenticide, may lead to a more restricted use of 1080 and a continuation of the decrease in accidents caused by it—a decrease which seems to have been present for at least a year.

ANTU has a good safety record for man in spite of the fact that at least ten children are said to have eaten baits containing the rodenticide[3]. There remains a need for a fast-acting rodenticide that is safe for man and effective against all species of commensal rodents. Although the new slow-acting rodenticides have a good safety record, there remain rodent control problems which are more conveniently solved by a fast-acting rodenticide.

Among the newer insecticides, the organic phosphorus compounds have produced by far the most fatal accidents. Parathion has accounted for eight deaths in the United States, and there was one other in which the part played by parathion could not be evaluated clearly. A large number of nonfatal cases is known, and the majority is probably never reported. However, the very active educational campaign carried out by the manufacturers has done a great deal to bring information to the farmers and orchardists who buy and use the product. This campaign, along with the efforts of private, state, and federal agencies, has apparently reduced the accident rate, although use of parathion has increased. Industry is to be congratulated for its part in promoting safer practices in the use of economic poisons.

Tetraethylpyrophosphate (TEPP) has caused at least nine fatal accidents, and there are two other cases in which the diagnosis is not established. Among the chlorinated hydro-

[3] Emlen, J.: *Amer. J. Pub. Health*, 37(6): 721-727, June, 1947.

TABLE 1

Deaths from selected groups of causes and crude death rates per 100,000 population. United States, 1948.[2]

Cause	*Number*	*Rate*
All causes	1,444,337	988.5
Infections and parasitic disease	73,016	50.0
Cancer and other tumors	202,386	138.5
Disease of the circulatory system	505,716	346.1
Chronic poisoning and intoxication	2,550	1.7
Alcoholism	2,433	1.7
Lead Poisoning	46	0.0
All other chronic poisoning	71	0.0
Violent or accidental deaths	123,009	84.2
Accidental deaths	98,001	67.1
Automobile accidents (except collisions with trains or street cars)	29,915	20.5
Accidental absorption of poisonous gas	2,002	1.4
Acute accidental poisoning by solids and liquids	1,436	1.0

[2] U. S. Public Health Service. Vital Statistics of the United States—Pt. I — 1939-48.

TABLE 2

Total accidental deaths in the United States caused by chemicals and rate per 100,000 population.[2]

	Gases		*Solids and Liquids*	
Year	*Number*	*Rate*	*Number*	*Rate*
1939	1,396	1.1	1,371	1.0
1940	1,562	1.2	1,324	1.0
1941	1,464	1.1	1,191	0.9
1942	1,694	1.3	1,193	0.9
1943	2,038	1.5	1,254	0.9
1944	1,907	1.4	1,381	1.0
1945	2,131	1.6	1,532	1.2
1946	1,874	1.3	1,536	1.1
1947	1,938	1.4	1,504	1.0
1948	2,002	1.4	1,436	1.0

[2] U. S. Public Health Service. Vital Statistics of the United States—Pt. I — 1939-48.

TABLE 3

Estimated production of selected pesticides in the United States, expressed in thousands of pounds.[3]

Year	*Calcium Arsenate*	*Lead Arsenate*	*DDT*	*BHC*
1939	41,349	59,569	.....	.....
1940	.....	.....	.....	.....
1941	56,136	75,912	.....	.....
1942	84,136	63,751	.....	.....
1943	74,854	73,955	.....	.....
1944	44,350	90,705	9,626	.....
1945	25,644	70,522	33,243	.....
1946	35,392	56,667	45,651	.....
1947	46,904	31,006	49,600	8,197
1948	27,234	24,630	20,240	18,382
1949	16,006	16,866	37,904	27,937
1950	49,474	.....	77,973	57,508

[3] Production statistics based on U.S. Tariff Commission and Bureau of Census figures.

TABLE 4

Number of accidental deaths in the United States for selected causes.[2]

Year	*Arsenic and Its Compounds*	*Nux Vomica and Strychnine*	*Tobacco and Derivatives*	*Creosol Compounds*	*Lye and Potash*	*Barbituric Acid and Derivatives*
1939	109	82	7	31	120	201
1940	73	67	7	32	111	246
1941	70	40	7	29	94	232
1942	71	50	12	25	87	197
1943	85	54	6	20	88	226
1944	77	54	12	17	74	270
1945	58	52	9	13	79	392
1946	63	45	11	19	90	436
1947	48	37	10	7	72	418
1948	63	30	8	8	74	419

[2] U. S. Public Health Service. Vital Statistics of the United States—Pt. I — 1939-48.

carbon insecticides, chlordane is known to have killed one factory worker. In a second case, the diagnosis is in doubt.

Some fourteen deaths have been listed as resulting from DDT intoxication. All but two of them involved ingestion and, in most, the action of the solvent in the formulation undoubtedly played an important if not deciding role. Two fatalities ascribed to DDT involved *agranulocytosis* and *periarteritis nodosa*. The diagnosis of DDT poisoning in these instances stands on the weakest of foundations.

It is, of course, recognized that there are usually several nonfatal accidents for every fatal one. The reporting of the fatal ones is much better, however, and they serve as a very good indicator of the seriousness of acute poisoning in general.

Chronic poisoning may, in specific instances, be much more significant than acute poisoning. Chronic intoxication is recognized in our vital statistics. As shown in table 1, approximately two thousand five hundred cases are reported annually. Alcoholism accounts for the greater proportion, while the remainder—about five per cent—includes poisoning by lead and a wide variety of other materials. At the present time, cases of chronic poisoning in man by the newer pesticides have not been confirmed unless one lists in this category certain cases involving occupational exposure to organic phosphorus insecticides. If one may judge from animal experiments, intoxication following repeated exposure to small doses of the newer pesticides would be similar to illness caused by a single large dose. Such a relationship does not hold for all chemicals; for example, chronic and acute lead poisoning may be quite dissimilar. We must, therefore, be on the alert for syndromes characteristic of chronic illness. Furthermore, we must remember that man, in addition to being able to report his symptoms, may show different signs of illness than are shown by laboratory animals.

In this connection, a word of caution is needed. While remaining on the alert for exceptions, we cannot afford to forget the general rules. Any case of human illness ascribed to poisoning should be accompanied by convincing evidence of excessive exposure and by evidence that the signs and symptoms resemble those known to be characteristic. If this cannot be done, a diagnosis of specific intoxication should not be made unless every effort has been made by competent specialists to rule out other causes. Careful attention should be given to the principles of epidemiology. In general, those persons with the greatest exposure to a compound will show the greatest effects—if effects are to be shown. This is true even of those materials, such as beryllium, in which there is good evidence that a sensitization reaction constitutes a significant part of the mode of action.

A word of caution is also in order regarding the expression "chronic toxicity." In simple terms, the expression means prolonged poisoning. It is generally caused by repeated small exposures to a toxicant but, in certain instances, it may be caused by one or a few large doses, as with arsenic. Conversely, small repeated doses may result in acute poisoning. An example is poisoning by small, repeated doses of parathion, in which the cholinesterase level is successively lowered until reaching a point where symptoms of acute poisoning occur.

In conclusion, the newer pesticides have, in comparison with the older ones, a good safety record. This is in large part due to intelligent enforcement of the Federal Insecticide, Rodenticide, and Fungicide Act, and of similar legislation in the various states. Educational campaigns carried on by a great variety of groups, including industry, have helped tremendously to familiarize users with the facts and to establish the custom of reading the labels on economic poisons. The American Medical Association, The U. S. Public Health Service, and others have called the attention of physicians to the symptomatology and treatment of intoxication caused by various pesticides.

Since a great many new pesticidal compounds have been introduced in the last decade, it is obvious that many problems require further scientific study. There is nothing to be gained in the long run, however, by irresponsible statements that nothing is now known of the toxicology of the newer pesticides, or that no legal control of their use exists, or—in the absence of epidemiological proof—that a wide variety of illness from which mankind has suffered for generations is now caused by intoxication by the newer economic poisons.

—— ♦ ——

Pyrethrin-like activity is limited to esters from *cyclo*propane carboxylic acids with unsaturated side chains, and *cyclo*pentanolone derivatives also with unsaturated side chains. Minor changes in both the acid and alcohol influence the action of the pyrethrins to a considerable degree, and more often than not eliminate it. Pyrethrin-like activity is dependent not only on the constitution but also on the spatial inter-relationships of the groupings in the molecule.

Insecticidal activity of pyrethrin-like esters may be associated with the presence of at least two separate centers in their molecules, at which they can interact with some system in the metabolism of the insect. The arrangement in space of these active areas, is achieved most effectively when the unsaturated side chain in the keto-alcohols is held by the *cyclo*pentane ring and the ester linkage in a specific configuration with respect to the chrysanthemum carboxylic acid part of the molecule. The interaction with the insects' metabolism may be less strong and overcome more easily if there is no double bond in the keto-alcoholic side chain. Although the esters with saturated side chains have low toxicity, it is reported that they retain high knock-down; however, the insects may recover when the concentration of the highly active compounds is very low. When the molecular attachment is not strong, it can be reversed by the insects, which subsequently recover. Another explanation of the difference in activity of the esters with saturated and unsaturated side chains would be in the different physical properties between the two series. M. Elliott *Pyrethrum Post* 2, No. 3, 18-28 (1951).

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CSMA Meeting in Washington

MEETINGS of the five divisions of which the association is composed were the feature of the first morning of the two day, 38th annual convention of the Chemical Specialties Manufacturers Association, being held at the Mayflower Hotel, Washington, D. C., Dec. 3 and 4. Highlights of the papers presented at the various division meetings the morning of Dec. 3 included discussions of the potential market for aerosols, the efficacy of detergent-sanitizers, the availability in the months just ahead of containers for insecticides, the evaluation of commercial synthetic detergents and floor wax manufacturing by the General Service Administration in Washington. A very heavy attendance (possibly 700 or better) was anticipated for the meeting, based on advance room reservations.

Besides the election of officers and members of the board of governors for 1952, other association business to be conducted at the meeting included a meeting of the board, Dec. 2, on which day administrative, scientific, marketing and other committees and subcommittees of C.S.M.A. met. Reports of association officers will be presented, these in a general session following the first day's group luncheon, for which Osgood V. Tracy, director of the chemical division of the National Production Authority, is to be the guest speaker. The activities of a government agency manufacturing floor waxes and other products for use by departments and bureaus of the federal government will be reviewed, as will efforts of C.S.M.A. to have government manufacturing discontinued. If this government sponsored competition with private industry is not completely halted by the time of the meeting, further action is planned and some will be effected at the gathering.

Once again, the annual meeting will hear a large number of papers on all phases of the industry's activities. Two general sessions, one Monday afternoon, the other, Tuesday morning, Dec. 3 and 4, respectively, will cover the effects of the rearmament program on the industry. A review of Washington developments by the association's counsel, John D. Conner, and a panel discussion of government price and material control regulations will be participated in by representatives of OPS, NPA, and other federal agencies and departments.

H. W. HAMILTON
Secretary

Programs arranged by the five divisions of the association are being presented in either separate, or joint concurrent sessions the morning of Dec. 3 and Tuesday afternoon, Dec. 4. Just prior to this latter, at the group luncheon, newly elected officers will be installed.

The social side of the meeting calls for, in addition to the two group luncheons, Dec. 3 and 4, both of which will be addressed by guest speakers; the president's reception for new members in the association suite, Sunday evening, Dec. 2; open house in company suites Monday evening, Dec. 3; and the reception and cocktail party in the Chinese Room, just preceding the annual dinner and show, in the grand ballroom, Tuesday evening, Dec. 4. In addition, a past president's club is being formed and meets Tuesday afternoon, Dec. 4, at 4:30 p.m.

Although the meeting ends officially, Dec. 4, with the banquet,

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on the following day, the Aerosol Division is arranging for a special trip to the Agricultural Experiment Station, Research Center, U. S. Department of Agriculture, at Beltsville, Md. Buses have been chartered for the trip, leaving the hotel at about 9:00 a.m. and returning at 3:30 p.m. Tickets for the trip will be available in advance at the registration desk.

The convention committee is composed of Melvin Fuld of Fuld Brothers, Inc., Baltimore, second vice-president, chairman of the general program committee, with John A. Rodda of U. S. Industrial Chemicals, Inc., New York, general vice-chairman of the program committee. Divisional program chairmen are: George W. Fiero, Esso Standard Oil Co., New York, Insecticide Division; C. L. Weirich, C. B. Dolge Co., Westport, Conn., Waxes and Floor Finishes Division; H. R. Shepherd, Connecticut Chemical Research Corp., Bridgeport, Aerosol Division; A. G. Peck, Peck's Products Co., St. Louis, Soap, Detergents and Sanitary Chemical Products Division; H. D. Lederer, R. M. Hollingshead Corp., Camden, N. J., Disinfectants and Sanitizers Division. Ira P. MacNair, MacNair-Dorland Co., New York, H. W. Hamilton, executive secretary C.S.M.A. and D. M. King of Masury Young Co., Boston, make up the arrangements committee. The entertainment committee is composed of James E. Ferris, Niagara Alkali Co., New York, chairman, William Flatow, Jr., West Disinfecting Co., Long Island City, N. Y., and C. R. Lichtenberg, Chicago Sanitary Products Co., Chicago.

Plans will be discussed for the 40th annual meeting of the association, which will be held in Washington, in December, 1953. A special program of events is being scheduled to celebrate the 40th anniversary of the association, the first meeting of which was held in Washington. Plans are also being formulated for the 38th mid-year meeting of C.S.M.A., to be held at the Copley Plaza Hotel, Boston, June 8, 9 and 10. This represents a change from the originally announced meeting place, which was to have been Detroit.

Complete proceedings of the 38th annual meeting, to carry the full text of all available papers and reports of all talks given at the meeting will be available early in 1952. Registrants at the meeting receive free copies. For others the price tentatively set is $7.50.

Program for the 38th Annual Meeting Chemical Specialties Manufacturers Assn., Mayflower Hotel, Washington, D. C. Monday and Tuesday Dec. 3-4

Monday Morning, December 3

Aerosol Division, Williamsburg Room

9:30 A.M.

Edmond G. Young, Presiding

A-1 (9:30)—Address of Division Chairman—H. E. Peterson, Continental Filling Corp., Danville, Ill.

A-2 (9:45)—"Can Manufacturers Institute and the Aerosol Industry"—Harold H. Jaeger, Can Manufacturers Institute, New York.

A-3 (10:00)—"1951 Aerosol Market Survey"—R. C. Sickler and D. C. McSorley, Kinetic Chemicals Division, E. I. du Pont deNemours & Co., Wilmington, Del.

A-4 (10:30—"Merchandising Aerosols" — R. Uhl, Batten, Barton, Durstine & Osborn, Inc., New York.

A-5 (11:00)—"The Potential of Aerosols in the Market Place"—D. J. Finlayson, Bridgeport, Brass Co., Bridgeport, Conn.

A-6 (11:30)—"The Reflection of Quality Control in the Aerosol Industry"—R. J. Peterson, Continental Filling Corp., Danville, Ill.

A-7 (11:40)—"Use of Aerosols Against Stored Product Insects"—Dr. L. S. Henderson, U. S. Department of Agriculture, Agricultural Research Administration, Bureau of Entomolgy & Plant Quarantine, Washington, D. C.

A-8 (12:00)—Report of Aerosol Scientific Committee and Sub-Committees—Chairman: W. E. Graham, Crown Can Company, Philadelphia.

Disinfectant & Sanitizers Division, Jefferson Room

9:30 A.M.

W. X. Clark, Presiding

D-1 (9:30)—Address of Division Chairman—Dr. E. G. Klarmann, Lehn & Fink Products Corp., Bloomfield, N. J.

D-2 (9:45)—"The Effect of Relative Humidity on the Efficiency of Surface Disinfectants"—Robert K. Hoffman, Bacteriologist, Decontamination Branch, Chemical Corps Biological Laboraties, Camp Detrick, Frederick, Md.

D-3 (10:15)—"Detergent — Sanitizer, How Good Is It?"—N. E. Lazarus, Lazarus Laboratories, Inc., Buffalo, N. Y.

D-4 (10:45)—"The Federal Insecticide, Fungicide and Rodenticide Act as Applied to Anti-bacterial Agents"—W. G. Reed, Chief, Insecticide Division, Production & Marketing Administration, Livestock Branch, U. S. Department of Agriculture, Washington, D. C.

D-5 (11:15)—"Development, Applications and Uses of Copper-8-Quinolinolate"—W. A. Clark and L. W. Sessions, Monsanto Chemical Co., St. Louis. Delivered by: L. W. Sessions.

D-6 (11:45)—Report of Disinfectant Scientific Committee—Chairman: W. A. Hadfield, Pennsylvania Salt Manufacturing Co., Philadelphia.

D-7 (12:15)—Report of Disinfectant Chemical Analyses Committee—Chairman: George R. Goetchius, Rohm & Haas Co., Philadelphia.

Insecticide Division, East Room

9:30 A.M.

James A. Green, Presiding

I-1 (9:30)—Address of Division Chairman—T. Carter Parkinson, McCormick & Co., Baltimore, Md.

I-2 (9:45)—Report of Insecticide Scientific Committee and Sub-Committees—Chairman: E. J. Campau,

Standard Oil Company (Indiana), Whiting, Ind.

I-3 (10:00)—"The Supply of Containers for Insecticides"—Thomas F. Brennan, American Can Company, New York.

I-4 (10:15)—"Companion Line — Sprayers and Dusters" — Earl D. Anderson, Secretary, National Sprayer and Duster Association, Chicago.

I-5 (10:30)—"The Federal Insecticide, Fungicide and Rodenticide Act"—Dr. E. L. Griffin, Assistant Chief, Insecticide Division, Production and Marketing Administration, Livestock Branch, U. S. Department of Agriculture, Washington, D. C.

I-6 (11:00)—"Rearing the Stable Fly for Laboratory Tests" —E. J. Campau, G. J. Baker and F. D. Morrison, Standard Oil Company (Indiana), Research Department, Whiting, Ind. Delivered by: E. J. Campau.

I-7 (11:30)—Report of Insecticide Chemical Analyses Committee—Chairman: Dr. R. J. Haring, John Powell Laboratories Inc., Port Jefferson, N. Y.

I-8 (12:00)—Report of Insecticide Defense Committee — Dr. George W. Fiero, Esso Standard Oil Co., New York.

Soap, Detergents and Sanitary Chemical Products Division, North Room

9:30 A.M.

P. G. Bartlett, Presiding

S-1 (9:30)—Address of Division Chairman—Dr. Herbert L. Sanders, Ninol Laboratories, Chicago.

S-2 (9:45)—"Evaluation of the Foam of Soaps and Detergents"—Dr. J. Ross, Colgate-Palmolive-Peet Co., Jersey City, N. J.

S-3 (10:15)—"Present Trends in Cotton Detergency Testing"—Dr. J. M. Lambert, General Aniline & Film Corp., Easton, Pa.

S-4 (10:45)—"Cleansers and Dermatitis"—Louis Schwartz, M.D., consultant dermatologist, Washington, D. C.

S-5 (11:15)—"Evaluation of Commercial Surfactants" — Dr. Herbert L. Sanders, Ninol Laboratories, Chicago.

S-6 (11:45)—"Automatic Liquid Soap Production"—R. J. Ballantine and W. S. Jessop, U. S. Sanitary Specialties, Chicago. Delivered by: W. S. Jessop.

Waxes & Floor Finishes Division, Pan American Room

9:30 A.M.

Cyril S. Kimball, Presiding

W-1 (9:30)—Address of Division Chairman—Bayard S. Johnson, Franklin Research Co., Philadelphia.

W-2 (9:45)—"Absorption Spectra Studies of Some Components of Floor Wax Emulsions"—Dr. Andrew Dingwall, Consulting Chemist, New York.

W-3 (10:00)—"Ammonia Soluble Resins"—Herbert J. Mellan, Durez Plastics & Chemicals, Inc., North Tonawanda, N. Y.

W-4 (10:30)—"An Appraisal of Wax Emulsifiers"—Ralph B. Trusler, Davies-Young Soap Co., Dayton, O.

W-5 (11:00)—"Construction and Maintenance of Concrete Floors for Service in Industrial Buildings"—C. C. Singleton, Regional Construction Engineer, Portlant Cement Association, Philadelphia.

W-6 (11:20)—"Floor Wax Requirements of General Services Administration"—Speaker from Public Buildings Service, General Services Administration, Washington, D. C.

W-7 (11:40)—"The Manufacture of Floor Wax by General Services Administration"—Bayard S. Johnson, Franklin Research Co., Philadelphia.

W-8 (12:00)—Report of Wax Scientific Committee and Sub-Committees—Chairman: H. J. Mellan, Durez Plastics & Chemicals Inc., North Tonawanda, N. Y.

Monday Afternoon, December 3

Group Luncheon, Williamsburg Room

12:30 P.M — Osgood V. Tracy, director, Chemical Division, N.P.A.

General Session, Williamsburg Room

C. L. Weirich, Presiding

2:00 P.M

G-1 (2:30)—Address of President—L. J. Oppenheimer, West Disinfecting Co., Long Island City, N. Y.

G-2 (3:00)—Report of Secretary—H. W. Hamilton, Chemical Specialties Manufacturers Association, New York.

G-3 (3:20)—Report of Treasurer—P. C. Reilly, Jr., Reilly Tar & Chemical Co., Tuckahoe, N. Y.

G-4 (3:30)—Committee Reports.
Committee Appointments.
Special Matters.

G-5 (3:45)—Report of Nominating Committee—Chairman R. T. Yates, Hercules Powder Co.-Naval Stores Division, Wilmington, Del.
Election of officers and board of governors for 1952.

G-6 (4:00)—*A Symposium*: Defense Emergency Programs
Moderator: Melvin Goldberg, McLaughlin, Gormley, King Co., New York.

(a) Industrial Chemicals—P. H. Groggins, Chief Agricultural Chemicals Section, N.P.A., Washington, D. C.

(b) Cans—R. J. Small, Chief, Metal Cans Branch, N.P.A., Washington, D. C.

(c) Glass Containers—H. B. Esselen, Chief, Glass Container and Closures Branch, N.P.A., Washington, D. C.

(d) Export Regulations—John Lowe, Chemicals Division, Office of International Trade, U. S. Department of Commerce, Washington, D. C.

(e) Civilian Requirements—T. A. Foster, Industry Representative, Division of Civilian Requirements, U. S. Public Health Service, Washington, D. C.

(f) Insecticide Pricing—Howard Grady, Office of Price Stabilization, Washington, D. C.

(g) Soaps and Detergents Pricing—James A. Carey, Chief, Soap & Glycerine Section, O.P.S., Washington, D. C.

(h) Coal Tar Chemicals and Aromatics—L. A. Schlueter, Chief Aromatic Chemicals Division, N.P.A., Washington, D. C.

5:30 P.M. —Open House—Member Firms.

Tuesday Morning, December 4

8:30 A.M.

Registration — Ballroom Foyer

8:30 A.M. —Board of Governors Breakfast Meeting—Main Dining Room.

General Session, Williamsburg Room

L. J. Oppenheimer, Presiding

10:00 A.M

G-7 (10:00)—Membership Committee Report—Chairman: John Powell, Powell Magazines, Inc., New York.

G-8 (10:15)—Legislative Committee Report—Chairman: G. S. McInerny, Boyle-Midway, Inc., New York.

G-9 (10:30)—"Washington Developments"—John D. Conner, General Counsel, Washington, D. C.

G-10 (11:00)—"The Outblook for Business"—Dr. H. E. Luedicke, The *Journal of Commerce*, New York.

12:30 P.M. —Group Luncheon—Grand Ballroom—Speaker to be announced.

2:00 P.M. —Business Session.
Installation of Officers for 1952.

Tuesday Afternoon, December 4

2:30 P.M.

Aerosol Division, Williamsburg Room

H. E. Peterson, Presiding

A-9 (3:00)—"Aerosol Anti-Perspirant Studies"—Dr. F. T. Reed, E. I. du Pont de Nemours & Co., Kinetic Chemicals Division, Wilmington, Del.

A-10 (3:30)—"Discussion of Methods for Determining Water in Aerosols"—R. A. Fulton, U. S. Department of Agriculture, Bureau of Entomo-

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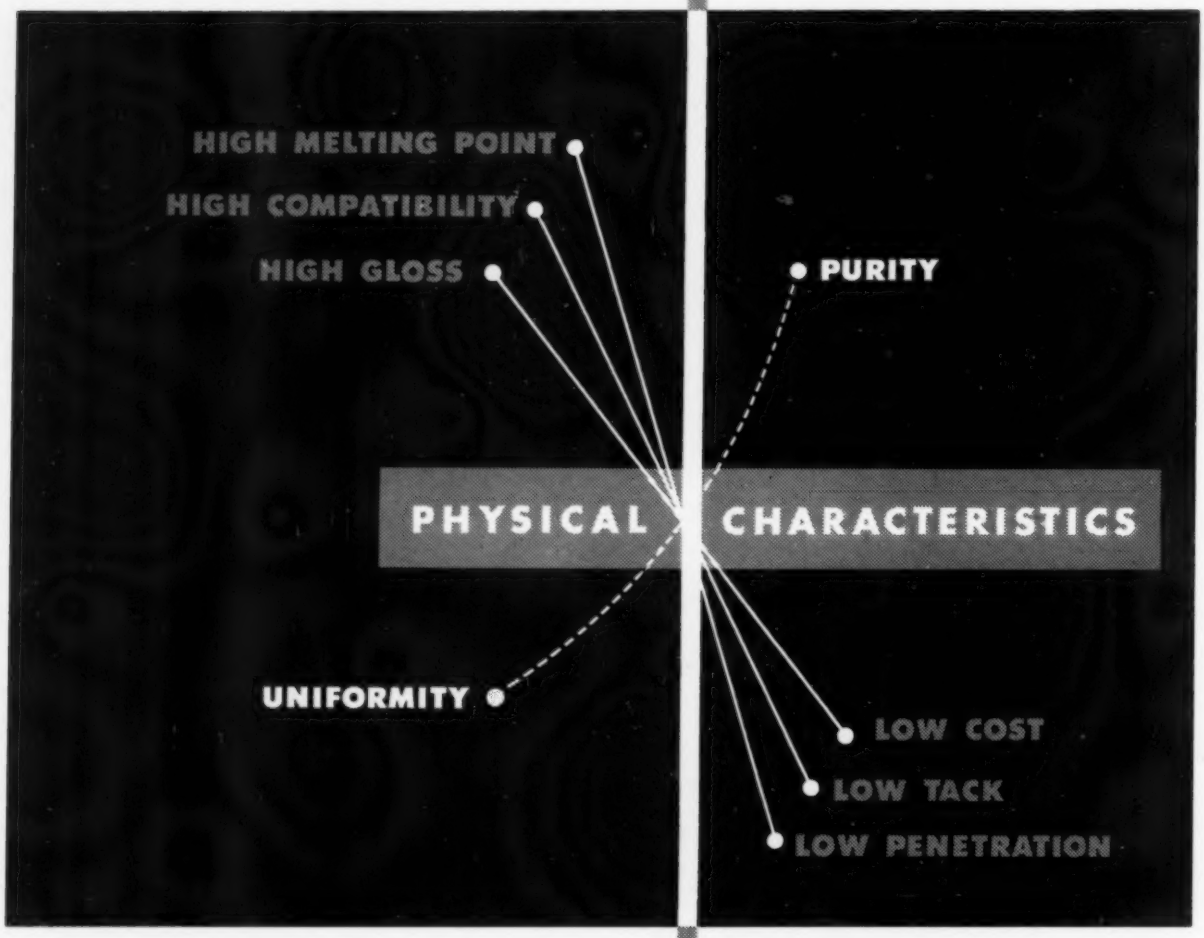

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SPECIFICATIONS

PETROLITE CROWN	Melting Point °F.	Penetration with 100 gms.	Color N.P.A.	Acid Number	Sapon. Number
500	190/195	10 max.	2 to 2½	Nil	Nil
700	190/195	5 max.	2 to 2½	Nil	Nil
1035	195/200	2 max.	2 to 2½	Nil	Nil
★ 23	180/min.	4 to 6	4 to 5	20-25	55-65
★ 36	180/min.	5 to 7	5 to 6	30-35	75-85

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logy & Plant Quarantine, Beltsville, Md.

A-11 (4:00)—"The Analysis of Moisture in Aerosol Formulations"—Dr. F. T. Reed and Dr. R. C. Downing, E. I. du Pont de Nemours & Co., Kinetic Chemicals Division, Wilmington, Del. Delivered by: Dr. R. C. Downing.

A-12 (4:30)—"Aerosol Evaluation against Houseflies and Roaches"—Arnold Mallis, R. V. Sharpless and A. C. Miller. Delivered by: A. C. Miller.

Disinfectant & Sanitizers Division, Pan American Room

E. G. Klarmann, Presiding

2:30 P.M.

D-8 (2:30)—"The Art and Technique of the Technical Paper"—Harold D. Lederer, R. N. Hollingshead Corp., Camden, N. J.

D-9 (2:45)—"Phenol Coefficient Determination by Logarithmic Dilution Method" — A. Haldane Gee, Irving L. Seidenberg and L. C. Cartwright, Foster D. Snell Co., New York. Delivered by: A. Haldane Gee.

D-10 (3:15)—"Iodine as a Germicide"—D. H. Terry, General Dyestuff Corp., New York.

D-11 (3:15)—"Considerations of Halophors"—H. Shelanski, PhD., Industrial Toxicology Laboratories, Philadelphia and A. Cantor, University of Akron, Akron, O. Delivered by: A. Cantor.

D-12 (4:10)—"The Relationship of the Medium to the Effectiveness of Germicides"—S. Boyk, Ottawa Chemical Co., Toledo, O.

Insecticide Division, East Room

T. Carter Parkinson, Presiding

2:30 P.M.

I-9 (2:30)—"Comments on the Physiology of Resistant House Flies"—F. H. Babers, Biochemist, Control Investigations, Bureau of Entomology & Plant Quarantine, U. S. Department of Agriculture, Beltsville, Md.

I-10 (3:00)—"Recent Developments in Livestock and Barn Sprays"—E. F. Knipling, Chief, Division of Insects Affecting Man and Animals, Bureau of Entomology & Plant Quarantine, U. S. Department of Agriculture, Washington, D. C.

I-11 (3:30)—"The Value of Allethrin in Insect Control"—Dr. R. C. Roark, In Charge, Insecticide Investigations, Bureau of Entomology & Plant Quarantine, U. S. Department of Agriculture, Beltsville, Md.

I-12 (4:00)—"An Appraisal of the Toxic Hazards of Some Economic Poisons"—Dr. S. W. Simmons, Scientist Director, and Wayland J. Hayes, Jr., Senior Surgeon, Technical Development Services, Communicable Disease Center, U. S. Public Health Service, Savannah, Ga.

I-13 (4:15)—"The Association of Economic Poisons Control Officials—a Statement of its Purposes"—Albert B. Heagy, Secretary, College Park, Md.

I-14 (4:30)—"Effectiveness of Various Ratios of Piperonyl Butoxide and Pyrethrins against German Cockroaches"—Eileen J. Incho, U. S. Industrial Chemicals, Inc., Baltimore, Md.

Soap, Detergents and Sanitary Chemical Products Division, North Room

Herbert L. Sanders, Presiding

2:30 P.M.

S-7 (2:30)—Reports of Soap, Detergents and Sanitary Chemicals Scientific Committee and Sub-Committees—Chairman: J. C. Harris, Monsanto Chemical Co., Central Research Laboratories, Dayton, O.

S-8 (2:45)—"Some Variables of Mixed Fatty Acids which Affect Clarity and Viscosity of Potash Liquid Soap Solution"—L. L. Sutker and N. V. Feldpush, Wilson-Martin Division, Wilson & Co., Inc., Philadelphia. Delivered by: L. L. Sutker.

S-9 (3:15)—"Sequestering Action of Polyphosphates"—L. C. Dormuth, Pennsylvania Salt Manufacturing Co., Philadelphia.

S-10 (3:45)—"Corrosion Control in Detergents with Sodium Silicates"—E. A. Robinson, Research & Development Dept., Diamond Alkali Company, Painesville, O.

Waxes & Floor Finishes Division, Chinese Room

Bayard S. Johnson, Presiding

2:30 P.M.

W-9 (2:30)—"Problems Arising in Installing, Finishing and and Maintaining Hardwood Floors"—F. H. Lyons, E. L. Bruce Co., Memphis, Tenn.

W-10 (3:00)—"Buffalo Board of Education Wax Specifications"—Raymond C. Harrison, Chief Chemist, Board of Education, Buffalo, N. Y.

W-11 (3:30)—"Silicones in Wax Polishes"—Thomas Welch, Linde Air Products Div.-Union Carbide & Carbon Corp., Tonawanda, N. Y.

W-12 (4:00)—*A Symposium*: "The Commercial Laboratory and Wax Testing"—Moderator: A. L. Sodergreen, West Disinfecting Co., Long Island City, N. Y.

Dr. C. S. Kimball, Foster D. Snell, Inc., New York.

Dr. Charles E. Crompton, Head, Applied Radioactivity Division, U. S. Testing Company, Inc., Hoboken, N. J. *"The Future of Radioisotope."*

Tuesday Evening, December 4

4:30 P.M. —Past Presidents' Club Organization Meeting—Association Suite.

6:30 P.M. —Reception and Cocktail Party—Chinese Room.

7:30 P.M. —Informal Dinner and Entertainment—Grand Ballroom.

Special Session, Aerosol Division, Wednesday, December 5, 1951 Beltsville, Md.

Special Program at Agriculture Experiment Station, Research Center, U. S. Department of Agriculture, Beltsville, Md.

Buses will leave The Mayflower Hotel at 9 A.M. Will arrive back at The Mayflower from Beltsville about 3:30 P.M.

Purchase bus tickets in advance at CSMA Registration Desk.

Innis Speiden Changes

Changes in personnel announced recently by Donald B. Cushman, vice-president and general manager of Innis Speiden, Inc., New York, include the appointment of Frank T. Shanahan, formerly export manager and personnel manager, as assistant to the vice-president and general manager. He retains his post as personnel manager. Herbert S. Cottrell is now sales promotion and advertising manager. Formerly he was manager of the chemical department. He is succeeded in the latter post by Frank Grilli, formerly, Mr. Cottrell's assistant. J. P. Kesling is the new manager of the products development department. Previously he was connected with the technical service department.

Changes in sales personnel involve the assignment of J. E. Wolke, formerly an inside sales assistant to outside sales duties and the transfer of L. W. MacKenzie from the Boston sales office to the New York sales staff. J. A. Schade, formerly a chemist in the Jersey City plant, has been made coordinator of sales and production of gums and waxes.

E. D. Baumeister has been appointed superintendent of the Jersey City plant, and William P. Landgrebe, acting Cleveland manager, has been named manager of the Cleveland branch office.

Specialty Sprayers...

Their development from plastics by Calmar...

SIXTEEN years ago a large California oil company was in the process of improving its windshield cleaner service. Experimental work originated a windshield cleaner formula containing citric acid, a chemical that corroded the metal sprayers then in use. Lee McIntyre, who at the time was the petroleum company's specialty sales manager, asked the metal sprayer supplier to develop a plastic sprayer.

The plastic industry, of course, was still in its early stages of development. Injection molded polystyrene and acrylic were tested without success. Vinyl was finally selected and the first plastic sprayers were delivered in 1935.

Crude as they were in comparison with modern standards, these sprayers, pioneered as the result of a petroleum marketer's needs, were the original products of the present Calmar Company, Los Angeles, largest manufacturers of plastic sprayers and dispensers in the United States. For years, glass cleaner plastic sprayers constituted the principal business of the company, reorganized in 1946 as the Calmar Company when Lee McIntyre entered the firm as vice-president in charge of sales and product development. An expansion of the line was initiated with laboratory experimental work, and since 1948 Calmar has introduced a complete line of lotion and soap dispensers. In addition, the company recently added a line of atomizers in pastel colors.

Lee McIntyre, now vice-president of Calmar Company, tests the first plastic sprayer developed sixteen years ago for window shield cleaner service.

It is important to note that during its experimental period Calmar found it necessary to overcome the normal corrosive action of vinyl resins when ordinary metal and molding techniques were used. Calmar engineers developed special alloy metals for die and injection cylinder parts, compounded their own molding powders and were instrumental in Bakelite's development of new powders especially manufactured to fill Calmar's requirements for sprayers and dispensers. These powders, in turn, opened up many other uses—vinylite phonograph records being the best known.

This type of experimental re-

Calmar Testing Tables where every Calmar sprayer is hand tested before shipping. The value of this step is reflected in a recent spot-check when a leading glass cleaner manufacturer tested an order of 250,000 and found only 13/100 of 1% unsatisfactory.

search was responsible for Calmar's development of their new atomizers. Two years ago the company's engineers subjected every known type of plastic to basic ingredient tests, particularly aromatics. Polyethylene was selected since this plastic is not affected in any way by aromatics or other chemicals commonly found in perfume and space deodorant formulations. This work on atomizers produced several new patented features which assure both fine mist atomization and prevention of suck back in colorful, attractive, low cost units.

"Since we manufacture exclusively for the makers of retail products," said Mr. McIntyre, "our policy is to develop functional closures which guarantee consumer satisfaction and help dramatize the retail package with well chosen color."

Such product development has made it possible for manufacturers in a rapidly increasing number of fields to merchanise their products with colorful sprayers, dispensers and atomizers making them easier to use, easier to sell.

Entomologists Elect Smith

DISCUSSIONS concerned with the sub-lethal doses of toxicants, synergism, the rearing of cockroaches, and flies, were covered in papers presented at the 23rd annual meeting of the American Association of Economic Entomologists, held November 15 and 16 at the Hotel New Yorker, New York. Floyd F. Smith, U. S. Department of Agriculture, Washington, D. C., was elected chairman of the Association; P. J. Chapman, Cornell University Agricultural Experiment Station, Geneva, N. Y., was elected vice-chairman; and B. F. Driggers, N. J. State Agricultural Experiment Station, New Brunswick, N. J., was re-elected secretary-treasurer.

According to H. H. Incho and H. Greenberg, U. S. Industrial Chemicals Co., Division of National Distillers Products Corp., Baltimore, Md., a study of the relative degree of synergism exhibited by the separated active principles of pyrethrum in combination with piperonyl butoxide indicated that none of the components had greater synergism than the natural pyrethrum from extract. However, cinerin I and cinerin II showed better synergism with the butoxide than the pyrethrin I or II. Synergism was evaluated as the activity of the insecticide plus piperonyl butoxide, as divided by the activity of the insecticide alone.

H. L. House, Dominion Parasite Laboratory, Belleville, Ontario, Canada, presented a paper on "A Chemically Defined Diet and Aseptic Technique for Rearing Houseflies". In his report, Mr. House indicated that studies to develop a chemically defined aseptic medium for rearing houseflies have proved successful, using a nutritive formula which includes nineteen amino acids, cholesterol, dextrose, ten "B" complex vitamins, a salt mixture and cystine. Sodium hydroxide is used in the preparation of the formula to adjust the pH to 5.8 and preserve gelling properties in air.

Mr. House reported further that bacteriologically sterile larva are obtained by treating the eggs with disinfectant. The eggs are then placed in a tube containing some of the chemical diet formula, stoppered and maintained at 22° C. until hatched. The larva are allowed to develop at controlled conditions.

Among the other papers presented at the meeting was a report on "The Effect of Sub-lethal Doses of Toxicants on the Susceptibility of Insects to Insecticides" by R. L. Beard, Agricultural Experiment Station, New Haven, Conn., the "Relation of the Sex Chromosome to DDT Resistance in the German Cockroach" was reported by D. G. Cochran, J. M. Grayson, and M. Levitan, Agricultural Experiment Station, Blacksburg, Va.; while the "Vaporization of DDT by Heat" was the subject of a paper by P. J. Spear and H. L. Sweetman, Univ. of Mass., Amherst, Mass. H. J. Fales and P. G. Piquett, Agricultural Research Center, Beltsville, Md. reported on "The Rearing of Cockroaches for Experimental Purposes".

BHC Reaction with Metals

Although studies of DDT indicated decomposition at 120°, and that decomposition was accelerated by the presence of iron, benzene hexachloride did not decompose under similar conditions. When BHC dust is stored for a long time in a small iron vessel, the gamma-BHC in the dust decomposes, and the inside wall of the vessel is severly eroded.

Gamma-BHC was found to react with metals, and the intensity of these reactions was in the following decreasing order: zinc, iron, tin. Studies of the reaction velocity of BHC isomers with zinc powder indicated the following order or reaction: gamma, alpha, and delta. The beta-isomer does not react in this condition. M. Nakazima, K. Inagaki, and T. Tati, *Botyu-Kagaku* No. 16, 107-111, June (1951).

p,p' DDT in DDT Spray

Although several methods have been proposed for the determination of p,p' DDT in technical DDT, these have not been applicable to the analysis of DDT spray. Rapid stirring during dehydrochlorination has been suggested as one means of separation, but is not entirely satisfactory. A method for this analysis consists of extracting DDT with nitromethane.

Nitromethane has very limited solubility in kerosene, but is a good solvent for various kinds of organic compounds. Tests on the solubilities of p,p' DDT and o,p' DDT in nitromethane at various temperatures indicated that the solvent could be used satisfactorily as the extractant for separation of total DDT in DDT spray. M. Hamada, T. Takano, M. Ohno *Botyu-Kagaku*. No. 16, p. 45-51, (March 1951).

Rhodanine for Mildew

Although rhodanine has some fungicidal activity, it was found to be ineffective as a mildewproofing or rot preventing agent on cotton cloth. However, condensation products of rhodanine with aldehydes and ketones have a marked mildewproofing activity. F. C. Brown, and C. K. Bradsher. *Nature* 168, No. 4265, 171 (1951).

Liquid Soap . . .

(*From Page 45*)

causing darkening and possibly rancidity. All tanks are insulated to keep the oils in a liquid condition for pumping. All lines are pitched to drain back to the pump and are provided with ⅝" copper tubing tracer lines running on the outside in contact with the oil line for its entire length. One magnesia pipe covering is wrapped around both lines. Steam can also be blown from the outlet end back through the line and pump, emptying the contents into an open drum. All oil pipe lines are so arranged that they can be blown clear by steam pressure, and by an intricate system of valves, which are also reversible in flow.

Now that we have the oils in our storage tanks, let us consider the potash lye which is used to saponify these oils. The lye is received in tank cars and is run by gravity into receiving tanks which are located directly under the tracks. Samples are withdrawn and sent to the laboratory for test. From tanks oil is pumped by an all-iron centrifugal pump through an all-welded steel pipe into storage tanks on the sixth floor. As this line runs through practically the entire plant a leak could prove injurious to workers and damaging to stock. Hence it was deemed best to use an all-welded pipe. Now all the raw materials are in the soap department in preparation for making a batch of soap. A definite quantity of water is run into the soap kettle and brought to a boil with live steam issuing from a perforated pipe under a pressure of 125 pounds. This is also an aid in keeping the charge in a constant state of agitation during saponification.

Remote Control Soap Making

THE vegetable oils are pumped from the storage tanks into a weighing tank on the sixth floor. The controls for this operation are located at the scale. Provision has also been made to empty this line after pumping. Then the oils are run by gravity into the soap kettle. The potash lye is run by gravity to a tank calibrated to give ten pounds of lye to each graduation. From this tank it is run to the soap kettle. This flow of lye is controlled at the kettle and is added as fast as the oil will take it up. The charge is kept boiling continually while adding the lye.

More water is added as needed to keep the charge in a liquid state. When a predetermined weight of lye, based on the saponification value of the mixture of oils, has been added and thoroughly boiled a sample is sent to the laboratory. On the basis of this test, lye or oil, whichever is needed to neutralize, is then weighed and added to the charge. After thorough boiling, a sample is again sent to the laboratory and if not neutral the same procedure is repeated until the soap is neutral. When this point is reached sufficient water is added to finish off the charge as a 40 per cent soap.

The hot soap is then run by gravity to a covered storage tank where it is allowed to stand until cooled to room temperature. Then it is run into a cooling tank which is provided with an agitator and a cooling coil, through which passes the refrigerant "Freon." The soap remains in the cooling tank until it reaches a temperature of 40° F.

The soap is then clarified by filtering at 40° F. A filter aid is added to the cooled soap and thoroughly mixed before filtering. This is designed to improve the clarity of the soap and also speeds up its flow through the presses. Nylon filter cloths are also used in the filter press.

The soap runs by gravity into storage tanks in the shipping department. These tanks are under air pressure to give more rapid filling of drums. All liquid hand soaps are finished at a concentration of 40 per cent. This reduces the quantity to be filtered to less than one half and to the same extent reduces the number of storage tanks and the storage space. When liquid hand soap of a lower percentage is ordered, the 40 per cent soap is diluted with soft soap water to give the desired concentration.

All storage tanks including that containing soft water are piped to a manifold located at a 1,000 pound capacity Toledo dial scale with one pound graduations. A labeled drum is placed on the scale and the required amount of perfume and "Mellisol" and chelating agent in a graduate is added to the drum. The hose from the 40 per cent soap tank is inserted in the drum. Then from a chart is read the quantity of 40 per cent soap required to make the desired soap. Then the scale weights are moved till the dial hand shows this quantity. The flow is controlled by a solenoid valve. The starter button is then pushed and the flow automatically stops when the correct weight is in the drum. This brings the dial hand back to zero. The soap hose is then removed from the drum and the soft water hose put in the bung hole of the drum. Then the weight of water necessary is read off the chart and the scale weights moved till the dial hand shows this weight. Then the starter button is pushed and the flow automatically stops when the drum is filled to the desired weight.

No scale setting is necessary for the tare weight of the container regardless of its size, thereby eliminating one weighing. The drum is now stenciled and moved to the shipping platform.

New Clorox Plant

Ground for a $250,000 hypochlorite bleach plant at Charlotte, N. C., was broken recently by Clorox Chemical Co., Oakland, Calif. The plant will supply the Carolina area. It is expected to be in operation in about three months.

George Uhe Co. Is 30

Members of the drug, chemicals, essential oils and spice trades were entertained recently by executives and associates of George Uhe Co., New York, in connection with the firm's celebration of its 30th year in business. The company was founded by its president, George Uhe, in 1921, with headquarters at 102 Fulton St., New York. Managers of the organization's three major departments: Charles Fischbeck, essential oils, Henry Interdonati, chemicals, and George Schuster, spices, were on hand to receive friends in their respective fields.

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TRADE NEWS

West Leases Plant Site

A site at Woodbine, Cape May County, N. J., was leased recently by West Disinfecting Co., Long Island City, N. Y. Although no construction is planned for the site at the moment, it is known that West has been investigating a number of plant sites in the metropolitan New York area for some time.

DDT Plant for Brazil

Brazil may soon build a DDT plant with the backing of the International Fund for Child Welfare of the United Nations, it was reported in a recent issue of the *Brazilian Bulletin*. The plant, which would be operated by the National Malaria Service, would be able to produce about two-thirds of what the service now uses. The cost of the plant was put at one million dollars, of which Brazil was to put up about half.

PEA to Honor Rabin

Harry Rabin, chairman of the Fumigant Board of the Department of Health, City of New York, will be the guest of honor at the annual meeting of the Professional Exterminators Assn., to be held at an as yet unannounced date in December. Mr. Rabin has been chosen as "The Man of the Year" for his efforts in trying to improve the exterminating industry and for the close cooperation which the industry has received from the Department of Health. The Association met on November 11th, at which time plans for the annual meeting were discussed.

Travelers Aid Chairmen

S. Barksdale Penick, Jr., president of S. B. Penick & Co., New York, was recently named as chairman of the Drugs Division of the 1951 Travelers Aid Society fund raising campaign. Other divisional chairman serving the fund are William L. Sims, II, vice-president of Colgate-Palmolive-Peet Co., Jersey City, N. J., chairman of the Soap Division, and Ray Schlotterer, executive secretary of the Essential Oil Association, is

S. B. PENICK, JR.

chairman of the Cosmetics Division. The Society has a goal of $340,000.

American Home Earnings

American Home Products Corp., New York, recently reported a consolidated net income for the nine months through Sept. 30, 1951 of $8,442,323, equal to $2.20 per share, as against $9,133,564 or $2.37 a share in the comparable period of 1950.

NSSA's Show Plans

Plans for the 1952 convention of the National Sanitary Supply Association at the Stevens Hotel, Chicago, March 23 to 26, are beginning to take shape, Leo J. Kelly, announced recently, following a conference at Chicago headquarters with the organization's president, Searcy Ridge of Gateway Chemical Co., Kansas City, Mo. Committees were appointed to prepare convention details and decisions were reached on two topics to be discussed on the program. One will be a panel discussion by five association members on "How to advertise effectively and how much should be budgeted for advertising purposes," Mr. Kelly said. The other program topic will deal with "compensating the sales force." Outstanding specialists will also be engaged to contribute the benefits of their thinking and experiences on these subjects, Mr. Kelly said. He asked for cooperation of the organization's membership in a survey soon to be started to develop facts on these two urgent industry problems. A complete sellout of all available exhibit space was anticipated, Mr. Kelly said, and booth assignments are now being made.

Atomic Insect Control

The use of atomic radiation to control insects was foreseen recently by Henry M. Jackson, Democratic Representative of Washington and a member of the Joint Congressional Committee on Atomic Energy. He said atomic radiation is now being used to reduce the insect population by sterilization. A method that would reduce the number of insects in the world has been developed by scientists, according to Mr. Jackson. He pointed out that experiments included the mating of sterilized insects with "wild" ones, thus depriving insects of their ability to reproduce. He referred to nuclear research work, which includes the development of radioactive "searchlights" to explore insect and plant life, as one phase of "atomic agriculture."

Farley Baker P. A.

Walter H. Farley, who joined J. T. Baker Chemical Co., Phillipsburg, N. J., last August, after having been with Charles L. Huisking Co., Brooklyn, for about 16 years, was recently named purchasing agent for Baker.

Dr. G. C. Crampton Dies

Dr. Guy C. Crampton, 70, former professor of entomology at Amherst College, and widely known in the field, died Oct. 31, at Albany, N. Y., where he had been visiting. A 1904 graduate of Princeton, Dr. Crampton also studied at Cornell and universities in Germany. He received a masters degree from Harvard. After serving on the faculties at Princeton and Clemson College, Dr. Crampton went to Amherst, where in 1915 he became professor of entomology, a post he held for 30 years. He was a native of Mobile, Ala.

Forms New Coast Firm

Jack T. Silver, founder and former owner of Pioneer Chemical Co. and a veteran of 20 years in the sanitary supply field, recently announced the formation of Allied Chemical Products Co., 4908 Santa Monica Boulevard, Los Angeles 29, Calif. Mr. Silver, who has been in retirement for the past three years, announced that Clarence S. Warren, formerly a sales manager, is acting in the same capacity with the new firm. Allied is seeking to represent sales promotion products on the Pacific Coast.

Stratford Joins Pennsalt

William T. Stratford of Burlington, N. C., recently joined Pennsylvania Salt Manufacturing Co., Philadelphia, as a sales-service representative in the B-K department, it was announced by S. H. Crounse, sales manager. Mr. Stratford is making his headquarters at the company's Atlanta, Ga., sales offices and has been assigned to the southeastern territory. He is working under the supervision of J. H. Morrison, district sales manager of the territory. A native of Graham, N. C., Mr. Stratford attended North Carolina State College.

Drain Pipe Solvent Award

A $250,000 verdict was returned by a jury in a Federal court in Newark, N. J., to a plaintiff in a suit resulting from injuries suffered when a can of drain pipe solvent blew up in the man's face. The plaintiff, a master plumber, was blinded except for 25 per cent vision in one eye and his face was mutilated by third-degree burns when the can of drain pipe solvent, made by Blue Seal Chemical Co., Roselle Park, N. J., exploded. The suit charged the firm with negligence in its manufacture and in its printed directions and warnings. The accident occurred in 1950, when the plaintiff, Bernard Kieffer of Stewart, Minn., used the solvent with water to loosen a clog of tar in a water line. Mr. Kieffer said that the drain pipe cleaner exploded when he inserted a steel sewer rod into the vent pipe on the roof. A physicist testifying as Mr. Kieffer's witness said hydrogen gases developed by aluminum in the compound were exploded by heat generated by the friction from the contact of the rod and the pipe.

The company denied negligence in manufacture or in labeling of the product. It also said the plaintiff was negligent in using too small a quantity of water with the solvent and in not following directions.

"Zax" Promotion Brochure

Details on the promotion of its new "Zax" bowl sanitizer and cleaner are contained in a 16-page brochure issued recently by Hysan Products Co., Chicago. The illustrated brochure being mailed to sanitary supply dealers describes the new product, its mode of operation and the advertising and sales promotion efforts being used to back it up. A feature of the promotion is a demonstrator kit which includes a nylon zipper bag, bowl mop, quart bottle of "Zax" and bowl-mirror sales card. The mirror sales card is placed just inside the rim of the bowl to show the condition of the toilet before and after treatment with "Zax." All cases of the new product include bowl mops and mirror supplied free. A franchise application is part of the promotion and includes a money-back arrangement on any unsold "Zax" within a specified period. Labels carrying dealer imprints are available.

R. C. Yeager of Rose Exterminator Co., Cincinnati, who was elected president of the National Pest Control Assn., at its annual meeting at the Statler Hotel, Boston, recently. Mr. Yeager, formerly treasurer of NPCA, succeeds J. Edwin Sameth of Western Exterminating Co., Newark, N. J. Charles Kyle, Extermital Corp., Dayton, O., was elected secretary-treasurer. William O. Buettner continues as executive secretary.

Candy Wax Data Sheets

Candy & Co., Chicago, recently issued data sheets on its complete line of self-polishing floor wax products. These data sheets are available for jobbers. They cover Candy's "Supreme" (standard), "Deluxe," "Bright Beauty" (standard), "#640," "Supreme Special WR" (water resistant) waxes, as well as the two newest additions to the line: "Cand-Dox #CS" (water resistant, anti-slip) and "Cand-Dox #BB" (water resistant anti-slip waxes), both of which contain "Ludox" colloidal silica, a slip resistant material produced by E. I. du Pont de Nemours & Co., Wilmington.

Lice Resistant to DDT

Korean strains of body lice resistant to DDT were reported recently by a team of Navy and Army doctors. The three scientists: Comdr. Herbert S. Hurlburt of the Navy, and Capt. Robert M. Altman and Lieut. Carlyle Nibley, Jr. of the Army, said that military personnel in Korea treated with DDT dusting powder became almost as heavily infested with body lice as if they had received no treatment.

United Nations troops in Korea are given an effective protective vaccine against typhus fever, but dusting with DDT to control body lice that can carry typhus is considered the most practical means of protecting large groups of unvaccinated persons. It was this method that led to the initial fame of DDT in World War II when German soldiers were first found to use DDT successfully to control body lice. Later the use of the material was adopted by allied troops. Its most outstanding success was in treating civilian populations in Italy.

In 1948, resistance of house flies to DDT was first noted. Now resistance has developed to such an extent as to render DDT virtually useless for residual fly control. Resistance, likewise, has been reported in cockroaches toward DDT. House flies have developed resistance as well to other types of chlorinated hydrocarbon insecticides.

Court Upholds Insecticide Act

THE constitutionality of the Federal Insecticide, Fungicide and Rodenticide Act of 1947 was upheld in a recent ruling of the U. S. District Court for the Southern District of New York. The defendants argued that the Act is too vague and that it delegates to the Secretary of Agriculture the power to determine what shall constitute a crime without setting up a standard to be followed by the Secretary.

In United States v. Weinrab et al, 99 F. Supp. 763 (1951), the Court denied the defendants' motion to dismiss an information charging a violation of the registration, misbranding and adulteration provisions of the Act. The information charged that the defendants in New York had delivered for shipment to a New Jersey consignee a disinfectant without registering it with the Secretary of Agriculture and without properly labeling it.

In addition to arguing lack of constitutionality, the defendants contended that disinfectants were not defined in the law and were, therefore, not within the scope of its requirements. The court held, however, that the label on the product in question stated that the product "kills germs," and is an "Effective Repellant to Insects and Vermin" and that this showed that the product was an "economic poison" as defined in the law. Moreover, the Secretary of Agriculture has issued a regulation which specifically provides that a disinfectant is a fungicide, and, in the eyes of the court, the regulation is reasonable and logical.

The defendants also motioned to suppress all evidence obtained by the government as a result of the inspection made of defendants' books and records by agents of the Department of Agriculture. The court granted this motion as to the specific evidence obtained during the actual inspection of the defendants' books since the law expressly provides that specific evidence obtained under the section of the law requiring anyone dealing in economic poisons to allow agents of the Department of Agriculture to have access to their records must not be used in a criminal prosecution of the person from whom obtained. However, the court noted that the law does not prevent the use of evidence obtained from visits to the consignee even though the name, address, etc. of the consignee was obtained through inspecting the books of the defendants.

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Nilok Names Amsco

Nilok Chemicals, Inc., Niagara Falls, N. Y., recently announced the appointment of American Mineral Spirits Co., New York, as exclusive distributor in eastern seaboard states. They will be serviced by Amsco's district offices in Philadelphia, Rahway, N. J., New York, Providence and Boston. Nilok produces cyanuric chloride, which finds application in bactericidal agents, fungicides, germicides, insecticides, laundering whiteners, mothproofing compounds, surface active compounds, etc.

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Pesticides on Notice 1

Addition of allethrin, pyrethrum, naphthalene, paradichlorobenzene, freon, chlorine and trichloroethylene to its notice 1 list of materials and products which are designated as scarce was announced recently by the National Production Authority. These chemicals and such other materials as steel shipping drums, cans and collapsible tubes, which have also been added, are new subject to the anti-hoarding provisions of the Defense Production Act and the inventory controls of NPA. Glycerine (both refined and crude), benzene and industrial (ethyl) alcohol were removed from notice 1 as being in more plentiful supply. They are, however, subject to NPA inventory restrictions.

The 1951 amendments to the Defense Production Act provide that in designating materials as scarce, the President may prescribe conditions with respect to their accumulation in excess of reasonable demands of business, personal or home consumption. In the new revisions of NPA notice 1, such conditions are spelled out to cover imported materials, receipts of minimum production or sales quantities and receipts of materials after adjustment of orders.

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X-ray for Filled Cans

An X-ray machine for viewing the inside of sealed cans in order to reject those not filled correctly was described recently by a representative of the X-ray department of General Electric Co., Schenectady, N. Y., at the National Electric Conference in Chicago, recently. The machine works by shooting a narrow X-ray beam through the cans as they move on a fast conveyor belt. If a can's contents are not high enough to interrupt the beam, it sends an electric impulse to a rejecting device that knocks the can off the belt.

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Expands Testing Facilities

Insecticide Testing Laboratories, Wilmington, O., announced recently that it is expanding its facilities for the testing of household insecticides to include the evaluation of agricultural insecticides. This new service includes the testing of products used in the control of insects affecting garden and field crops, stored grains as well as those used in the control of household pests. The new laboratory is situated on a farm of 250 acres one mile from Wilmington, O. A green house has been erected for use in conjunction with the laboratory. An adequate acreage is available for garden plot and field crop tests. A full-scale operation of the farm is maintained, making possible practical tests against certain insect species.

Facilities have been increased for the testing of household insecticides, according to Frank O. Hazard, and two Peet-Grady Chambers are now in operation, one for use with formulations containing chlorinated compounds, the other for non-residual sprays. Standard Peet-Grady tests are offered as well as the Tentative Aerosol Procedure of C.S.M.A.

Millmaster Chemical Moves

Millmaster Chemical Co., New York, recently moved its executive offices from 420 Lexington Ave. to 11 W. 42nd St., New York 36, according to an announcement by Robert J. Milano, president. Telephone number of the new New York offices is Longacre 4-1346. Millmaster acts as the selling agent for a number of domestic manufacturers including Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.; Nassau Chemicals, Inc., San Francisco; Berkeley Chemical Corp., Berkeley Heights, N. J.; Arapahoe Chemicals, Inc., Boulder, Colo.; and Barium & Chemicals, Inc., Willoughby, O. A New Jersey office is maintained at its plant at 942 Summit Ave., Berkeley Heights, N. J., where facilities have been established for the production of a wide line of pharmaceutical products and organic chemicals.

Superseding Millmaster as selling agent for F. W. Berk & Co., Wood Ridge, N. J., on such products as mercurials, zirconium compounds, boron, fertilizer materials, fungicides, etc., is Berkshire Chemicals, Inc., 420 Lexington Ave., New York. Millmaster is continuing to represent Berk in the sale of cuprous chloride, potash chrome alum, calcium acetate, and potassium acetate. Otherwise, the nature of Millmaster's activities remains substantially the same as previously.

Officers of Millmaster include, in addition to Mr. Milano, Jerome F. McGinty, vice-president; Charles L. Westenberg, treasurer, and Charles R. Brinkerhoff, secretary.

Form Berkshire Chemicals

The name of Millmaster Chemical Corp., New York, was changed recently to Berkshire Chemicals, Inc. Offices of the firm at 420 Lexington Ave. remain unchanged. Berkshire continues to act as exclusive sales agents for F. W. Berk & Co., Wood Ridge, N. J., for the sale of insecticides, industrial chemicals, fungicides, agricultural magnesia and other fertilizer materials.

Officers of Berkshire are M. H. McAllister, executive vice-president; W. L. Gay, vice-president; Arthur Smith, vice-president and secretary-treasurer; J. T. Malloy, assistant treasurer, and J. G. Langille, assistant secretary.

PERCY C. MAGNUS

Surety Co. Names Magnus

Percy C. Magnus, president of Magnus, Mabee & Reynard, Inc., New York, was recently elected a director and member of the executive committee of American Surety Co., New York. Long identified with public, philanthropic and business activities, Mr. Magnus has also been named chairman of the Committee on Public Health and Welfare of the New York State Chamber of Commerce.

New Continental Plants

Continental Can Co., New York, recently announced the formal opening of a new can-making plant in Auburndale, Fla., and the breaking of ground for the construction of a new fibre drum plant in Pittsburg, Calif. The new Auburndale plant, which is in addition to another in Tampa, Fla., is equipped wtih modern, high-speed lines and presses which are turning out cans at the rate of 400 a minute. Twenty bulk railroad car loading spots and 20 truck loading spots are features of the new unit.

The new West Coast plant is to be located on a 36 acre site immediately west of the city limits of Pittsburg, Calif. The plant will make "Fiberpak," "Leverpak" and "Stapak" fibre drums, and will be the first of its kind west of St. Louis.

Delaney Hearings on Coast

Hearings of the House committee (Delaney) investigating chemicals in foods were held on the West Coast during November. Further hearings of the committee are expected to be held in Washington, D. C. or New York during January. Previously concerned with insecticides and fertilizers, the committee is currently looking into cosmetics and shampoos. However, some aspects of the earlier investigation are expected to be covered in addition at the hearings.

Advises on Vaporizers

Vaporizing devices for dispensing insecticides are safe if installed and regulated correctly and if constructed so that the output of insecticide cannot exceed specified safe limits, according to a recently issued technical release of the National Pest Control Association. The release contains the text of a recent statement of the Interdepartmental Committee on Pest Control regarding the safety of such devices under conditions outlined.

According to the NPCA bulletin, although the Committee's statement is not a regulation for the administration of the Federal Insecticide, Fungicide and Rodenticide Act, it is being supported by the Production and Marketing Administration of the U. S. Department of Agriculture. Steps are being taken to review current applications for registration of such devices under the act, which would apply only to future production of vaporizers.

The bulletin also points out that restriction 4 of the Committee's statement will require the greatest change in currently available devices. The restriction states: "Devices shall be so constructed that output in excess of that recommended is impossible. Fuses to protect against overloading and high temperatures, and a pilot light to indicate whether or not the unit is operating should be 'built-in' features." No device on the market now has a pilot light or fuses to protect against overloading and high temperatures, the NPCA bulletin states. Most devices do not even have provision for thermostatic control, it adds. All will probably be required in future installations, the bulletin predicts.

Hervis Joins d-Con

Appointment of Dr. Henry O. Hervis as director of product development for d-Con Co., Chicago rodenticide manufacturers, was announced recently. Dr. Hervis at one time was associated with Sandoz Chemical Co., Nuremberg, Germany, and more recently has been in charge of production of all chemical products of Quality Industries, New York. He received his doctorate from Zurich University, Switzerland, and studied under Professor Paul Kerrer, Nobel prize winning chemist.

Views on Interpretation 19

Velsicol Corp., Chicago, recently issued a letter to the trade stating its views on the recently issued interpretation of the Production and Marketing Administration of the U. S. Dept. of Agriculture covering revisions in the labeling of household insecticides containing chlordane. In general Velsicol stated it was in agreement with PMA's interpretation, mentioning particularly the limitations establishing a uniform guide for the effective and safe use of chlordane formulations in interior applications and concentration of the formulation. Velsicol does disagree on the question of chronic toxicity of chlordane, however. Its letter states that "experimental results on chronic toxicity to warm blooded animals subjected to chlordane by oral administration, inhalation or absorption through the skin varied widely. To the best knowledge of this company there have not been any conclusive reports of chronic toxicity exhibited by human beings, although the insecticide has been in common household use for five years." The Velsicol letter was signed by H. O. Whamond, vice-president.

P. L. Frost to Penick

The appointment of Pinckney L. Frost as assistant manager of the expanding insecticide division of S. B. Penick & Co., New York, was announced recently by Harold Noble, vice-president. Mr. Frost has been manager of sales for Innis, Speiden & Co., New York, for the past 10 years, having earlier served the company as an outside salesman, Cleveland branch manager and assistant

PINCKNEY L. FROST

manager of sales. He is a native of Buffalo, attended Milton Academy and Roxbury Latin School, near Boston, and Pratt Institute, Brooklyn. His clubs include Chemists' (New York), Salesmen's Association of the American Chemical Industry; American Chemical Society, Armed Forces Chemical Association, Technical Association of the Pulp & Paper Industry and Rock Spring Country Club.

Rodent Control Campaign

Sponsorship of an educational and promotional campaign on warfarin rodenticides directed primarily towards increasing sales of warfarin products at dealer levels through the U. S. was announced recently by Wisconsin Alumni Research Foundation, Madison, Wis. The basic points of the program include a nation-wide rat and mouse eradication achievement campaign through members of Future Farmers of America and 4-H clubs. In this phase of the promotion, it is being suggested that rodenticides used in the campaign be purchased through local dealers and not on a community mixing basis. Plaques will be awarded to FFA chapters and 4-H clubs on basis of participation and achievement in the rat and mouse control campaign. An advertising campaign in farm publications and similar papers will announce the program, and is to be followed up with large space advertising in subsequent issues through the winter and spring months. Editorial support of the program will be carried in many of these publications.

Monsanto Merges Depts.

The advertising and public relations functions of Monsanto Chemical Co., St. Louis, formerly conducted by separate departments, have been consolidated into a single department of advertising and public relations, it was announced recently. Howard Marple, previously director of advertising, is director of the new department. Dan J. Forrestal has been named assistant director, J. Handley Wright, former director of public relations, has left the company to become a free-lance consultant. Consolidation of the two departments is an outgrowth of the company's increased programs both in advertising and public relations, with consequent need for a single large department to handle all public information activities.

More Brazilian Pyrethrum

Pyrethrum production in Brazil in 1951-52 is expected to reach 800 to 900 metric tons, according to a recent report in *Foreign Commerce Weekly*. The 1951-52 crop, if it comes up to expectations, will be larger than that of the previous crop year, although the Brazilian insecticide material cannot compete with prices on the world market. Consequently, little international demand is seen unless prices rise, meeting Brazil's high levels. Lower prices had reduced the size of the crop, but the smaller production plus the heavier demand tended to raise prices. Heavier demand from the Argentine also tended to raise prices.

The development of new, high-content pyrethrum strains from Kenya were also reported recently by *Foreign Commerce Weekly*. These strains are said to be responsible for greater production, which began in 1949. Study is continuing on the development of new strains, especially those for specific altitudes and climatic conditions. A new cross has shown great promise and preparation of this strain is in progress with a view to issuing seed in 1952, according to the weekly.

Honors P. C. Reilly

Peter C. Reilly, president of Reilly Tar & Chemical Corp., Indianapolis, Ind., was honored, with U. S.

PETER C. REILLY

Attorney General J. Howard McGrath, at a special academic convocation of Manhattan College, New York, recently. Mr. Reilly, who like Mr. McGrath, is a graduate of La Salle Academy, Providence, R. I., was awarded an honorary degree of Doctor of Science. Mr. Reilly is also a member of the Associate Board of Lay Trustees of the University of Notre Dame. His son, Peter C. Reilly, Jr., an executive of Reilly Tar & Chemical Corp., is treasurer of the Chemical Specialities Manufacturers Assn.

Court Denies Hyman Review

The U. S. Supreme Court on Nov. 5, denied a petition by Julius Hyman & Company, Denver, for review by writ of certiorari of the judgment of the Supreme Court of the State of Colorado affirming a decree of the District Court in and for the City and County of Denver. This renders final the decree of the District Court as modified by the Supreme Court of Colorado which, in part, enjoins Julius Hyman & Company and individual defendants, from making and selling various chemicals including the insecticide chlordane.

This decree, in addition to its injunctive features, orders Julius Hyman & Company to pay to Velsicol Corp., Chicago, $1,663,499.40 in damages and for gains and profits realized from sale of chlordane for the period ending March 31, 1949. Of this sum, $1,338,789.10 is payable without further proceeding and $324,710.30 is payable provided a refund is derived by the Hyman company from its income tax liability for the fiscal years 1947-'48 and 1948-'49. The $324,710.30 represents income tax already paid by Julius Hyman & Company in the previous fiscal years. To insure diligent effort on the part of Julius Hyman & Company to recover a refund from its income tax, the Court required the defendant to enter into a bond in the penal sum of $300,000.

Julius Hyman & Company ceased production of chlordane in May, 1950, and an additional accounting proceeding will be had to determine additional damages due Velsicol from the Hyman company for 14 months after March 31, 1949.

Julius Hyman and other individual defendants were found to be jointly and severally liable for a portion of the damages.

Cover Subject

Dr. W. G. Reed is Chief of the Insecticide Division, Livestock Branch, Production and Marketing Administration, U. S. Department of Agriculture. By profession he is a veterinarian, having been graduated from the Chicago Veterinary College in 1918, and having had 11 years in private practice. He came to the Department of Agriculture with the Meat Inspection Division of the Bureau of Animal Industry in 1929, and had wide experience in the field service charged with the enforcement of the Meat Inspection Act.

He became Chief of the Insecticide Division on March 1, 1945, and worked with industry members, State officials and others in the development of the bill which became the Federal Insecticide, Fungicide, and Rodenticide Act. Upon its passage on June 25, 1947, he was delegated by Mr. H. E. Reed, Director of the Livestock Branch, to be in charge of all registration and enforcement operations under the Act.

Velsicol Names Schor

Andrew Schor, head of the technical service division of Velsicol Corp., Chicago, was recently named as

ANDREW SCHOR

sales manager of the resin and solvents division. Mr. Schor has been with Velsicol for the past six years, and joined the firm originally as a development chemist. He was graduated from the University of Chicago with a master of science degree in chemistry. He is a veteran of World War II, having served in the U. S. Army Air Forces.

Zieserl in New Post

John F. Zieserl was recently appointed Chicago district manager of the Industrial Chemical Sales Division of West Virginia Pulp and Paper Co., New York. He succeeds John P. Harris, manager of the company's midwestern sales office since 1935, who has reached retirement age.

In his new post Mr. Zieserl will direct the sales of the company's chemical products in 16 midwestern states. Mr. Zieserl has been associated with the chemical company since 1924 when he started as a junior clerk. He has served in the company's main office in New York throughout his business career and was administrative assistant to the vice-president in charge of chemical sales when he received the new appointment.

A New Yorker, Mr. Zieserl attended New York University and in 1949 participated in the Advanced Management Program of the Harvard University Graduate School of Business Administration.

Sweep Compounds

(*From Page* 147)

water-wax emulsions. Emulsions of this type have a well established place as floor-polishing materials. However, disappointment awaits those who expect that a sweeping compound made with such an emulsion will serve both as a means of laying dust and of efficiently polishing floors. As explained by Kanegis, (5) the wax type sweeping compounds are not as bacteriostatistically effective as the oil type products. Moreover, says he, the wax type sweeping compounds are not formulated to be very effective as floor-waxing agents, nor do they help appreciably to build up or improve the wax coating. Of interest in this connection is the report (24) that a wax base sweeping compound was used under a buffing machine and then swept. This procedure was employed for waxed tile floors.

Essentially, a wax sweeping compound is nothing more than a regulation water-wax emulsion adsorbed on a mixture of sand and sawdust. (14) This is indicated in the description of the "sawdust-sand-water wax emulsion" type sweeping compound given in the federal specification. In such a product, according to this standard, matter volatile at 105 to 110°C. shall not be more than 12 per cent by weight. The sand content must range between 60 and 70 per cent and the proportion of sawdust must lie between five and 10 per cent. The remainder of the composition must be waxes and emulsifying agents.

The new New York City specification for the wax type of sweeping compound closely parallels the federal standard. However, it states that eight per cent is the permitted minimum of waxes and emulsifying agent. It also states that no mineral oil may be present. Actually, such oils have no place in the wax type of product. Indeed there are those who consider oil as almost an adulteration in such compounds.

Considerations for wax type products with respect to sawdust, sand, coloring agents and perfume are very much the same as with the oil-containing compounds. Because appreciable amounts of water are present in mixtures made with water-wax emulsion the problem of evaporation and drying presents itself. This must be borne in mind when planning the packaging and storage of these compounds.

As already indicated, the emulsions used in making wax type sweeping compounds are identical with the emulsions used for polishing floors. Literally scores of suitable formulas for making such emulsions are available, not only in the technical literature but also in the data provided by manufacturers of emulsifiers, waxes and other raw materials. However, a typical, fairly simple procedure is given by Kanegis (5) in his report on sweeping compounds. In this method, the wax or waxes are melted in a steam-jacketed kettle, along with sufficient oleic or stearic acid. The temperature is then brought to 95°C. An emulsifying agent, such as triethanolamine, is slowly added and stirred constantly until the solution clears. Boiling water is slowly stirred in, a little at a time. This is continued until the solution thins and is of a smooth consistency. More water is then added somewhat more rapidly and with continued stirring. Generally, it is preferable to continue the stirring until the product has cooled to room temperature. Further dilution is then possible.

This worker points out that less expensive waxes may be used in formulating emulsions for sweeping compounds than are required for the emulsions used directly for polishing floors. He also notes that it is not necessary to pay so much attention to the production of stabilized wax dispersions, thereby greatly simplifying the production of the emulsions needed for making the sweeping compounds.

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New Pyrethrum Pesticide

"'Sulfoxide-Prexcel," a pyrethrum extract synergized with n-octyl sulfoxide of isosafrole, was announced recently by S. B. Penick & Co., New York. Features of the new concentrate are improved odor, greater degree of skill and lower cost. It is also said to have a residual action many times that of pure pyrethrum. "Sulfoxide-Pyrexcel" can be used in formulating fly sprays, roach sprays, mill sprays and food packing plant sprays. It has the same low odor of toxicity as pyrethrum and can be used wherever a nontoxic spray is required. Technical bulletins on the new concentrate are available by writing the maker.

PROFESSIONAL DIRECTORY

PROFESSIONAL DIRECTORY

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Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap & Sanitary Chemicals*, 254 West 31st St., New York 1.

Positions Open

Soapmaker: All-around soap maker wanted. Give full details first letter. Factory located Pacific Coast. Address Box 445, *c/o Soap*.

Salesman Wanted for prominent line of liquid soap dispensers for jobbing trade. Give full details in your first letter. Address Box 438, c/o *Soap*.

Sales Agent: Leading manufacturer of industrial cleaners, soap products, etc., desires services of distributor for Metropolitan New York area. Splendid opportunity for aggressive organization or individual. Address Box 439, c/o *Soap*.

Positions Wanted

Chemist: Young lady chemist, B.S., with 6 years' experience, seeks employment, preferably in New York City area. Has done research, control, and developmental work on cosmetics: hair dyes, cold waves, powders, perfumes, creams, lipsticks, shampoos, etc., also has teaching, plastics, and oil chemistry experience. Address Box 440, c/c *Soap*.

Positions Wanted

Chemical Engineer: 9 years' development and production experience in waxes, polishes, other sanitary products; toilet articles, perfumery, flavors, & plastics. Mechanically proficient. Able to set up and manage plant. Desire position in New York Metropolitan area. Address Box 441, c/o *Soap*.

Field Representative: Selling chemicals, sanitary supplies, Fire Department chemicals, floor finishes, waxes, cleaners. Many years experience. Have college education, car. Write fully first letter. Address Box 442, c/o *Soap*.

Miscellaneous

Distributorship Wanted: 20-year-old established firm; owns large warehouse with 5-car RR siding and fleet of trucks; located New York City. Would like exclusive distribution for: Industrial chemicals; soaps (bars and flakes); and chemical specialties, for New York City. Address Box 443, c/o *Soap*.

Wanted: Canceled-unshipped-rejected or overstock chemicals, drugs, solvents, pharmaceuticals, oils, pigments, etc. Chemical Service Corp., 92-06 Beaver St., New York 5. Tel.: HAnover 2-6970.

Will purchase Immediately: Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box 444, c/o *Soap*.

Wanted: To expedite production—soap-making equipment including kettles, frames, pulverizers, cooling rolls, chip dryers, plodders, cutting tables, evaporators, packaging units. Will consider a set-up plant now operating or shut down. When offering give full particulars. P. O. Box 1351, Church St. Sta., New York 8, N. Y.

Soap Plant Wanted: We are now manufacturing over $20,000,000 in various lines and wish to expand by acquisition of assets or stock of one or more industrial companies. In our negotiations the seller's problems and wishes will receive full consideration. Present personnel will normally be retained. Address all replies "Confidential." C. J. Gale, Sec., 233 Broadway, N. Y. 7, N. Y. BA 7-1819.

For Sale

For Sale: Complete soap or sanitary chemical plants. Also individual items such as crutchers, plodders, mills, mixers, presses, dryers, filling equipment, etc. R. Gelb & Sons, Inc., State Highway No. 29, Union, N. J.

For Sale: MRM 8-Spout Vacuum filler, stainless steel. Horizontal ribbon type powder mixers; 50#, 100#, 200#, 400# and 600#; 2,000#; Read 600# jacketed. Broughton 2,000# double-arm powder mixer. Large stock stainless steel tanks and jacketed kettles. Perry Equipment Corp., 1410 N. 6th St., Phila. 22, Pa.

For Sale: 4-vertical Evaporators, 8′ dia., 316—3″ dia. x 3′ 3″ and 4—15″ dia. x 3′ 3″ vertical steel tubes, each with salting out chambers; 4′ x 8′ steel Flaking or Cooling Roll; Union Bag Sewing Machine, 80500 DZ head, M.D.; Sperry 24″ Recessed Cast Iron Filter Press; Shriver 30″ plate & frame C-1 Filter Press; Sperry 30″ aluminum P & F Filter Press; Munson 2000 lb. Rotary Batch Mixer; 100 lb. jacketed Soap Crutcher; 3-Day No. 71 S/S Roball Sifters; Size 11, 23, 43 and 53 Rotex screens; Dopp 350, 650 gal. jacketed, open kettles; Jones Automatic "K" soap press; Empire State Para Block Press; Mikro No. 1 and No. 2 Pulverizer; 2 Wolf 1800 lb. Ribbon Blenders; 38—Aluminum storage tanks, 800, 600 and 250 gals.; Special—27 unused rectangular 200 gal. aluminum storage tanks at only $75 each plus $15 crating. Only a partial list. Send us your inquiries. Consolidated Products Co., Inc., 15-21 Park Row, New York 38, N. Y. Phone BArclay 7-0600.

Latest American Book on **SOAPS & DETERGENTS?** see page 162.

For Sale

For Sale: New 1500# Soap crutcher; cutting table; Jones press; wrapper type S; 3000# crutcher motorized; 3&5 roll mills; 10" plodder; other soap machy. I. E. Newman, 5602 Blackstone Ave., Chicago, Ill.

Are You Posted on SYNTHETIC DETERGENTS? See page . . . 82.

For Sale: Proctor & Schwartz 6-Fan automatic soap chip dryer, 2-roll chilling unit, large roll 48" dia. Empire State foot presses. Soap frames. Allbright-Nell 4'x9' chilling rolls. Lehmann 4-roll W.C. 12"x36" steel mill. Houchin 8-1/2"x16" 3-roll and 18"x30" 4-roll Granite stone mills. Kettles and tanks, iron, copper, aluminum and stainless dryers vac. & atmos. Jones automatic soap presses. Slabbers and cutting tables, hand & power. Crutchers. Six-knife chipper. Filter presses 12" to 42". Wrapping & sealing machines. Powder, paste & liquid mixers. Rotex sifters. Filling machines, grinders. Hammer mills. Colloid mills. Three-roll steel mills, 8"x22", 9"x32", 12"x30" & 16"x40". Portable elec. agitators pumps, etc. Send for bulletin. We buy your surplus equipment. Stein Equipment Co., 90 West Street, New York 6, N. Y. WOrth 2-5745.

For Sale: Proctor & Schwartz 6 fan automatic soap chip conveyor dryers with 2 roll chilling units, rolls 48" and 14" dia. Steel insulated housing. Still installed in plant. Excellent Condition! Stein Equipment Co., 90 West St., New York 6, N. Y. Phone WOrth 2-5745. Cable Machequip.

Positions Wanted

Analytical Chemist & Soap Maker: With many years of experience in line of soaps, as alkali soaps (bars, powders, paste and liquid) dry cleaning soaps, synthetic detergents, diversified industrial alkali cleaners, soluble oils, polishes, waxes (self-polishing, solvent type and paste) disinfectants, also in research work and development, wishes new connection. Address Box 446 *c/o Soap & Sanitary Chemicals.*

Coming Meetings . . .

American Chemical Society, national meeting, Buffalo, N. Y., Mar. 23-27.
American Water Works Association, annual conference, Kansas City, Mo. May 4-9, 1952.
Association of American Soap & Glycerine Producers, Inc., (annual meeting) Hotel Waldorf Astoria, New York, Tuesday and Wednesday, Jan. 22 and 23. The Fatty Acid Section meets the same place the previous day.
Chemical Specialties Manufacturers Association (38th annual meeting) Mayflower Hotel, Washington, D. C., Monday and Tuesday, Dec. 3 and 4.
C.S.M.A. mid-year meeting, Copley Plaza Hotel, Boston, June 8, 9 and 10.
Drug, Chemical and Allied Trades Section, New York Board of Trade (62nd annual meeting) Pocono Manor Inn, Pocono Manor, Pa., Sept. 25-28, 1952.
D.C.A.T. annual dinner, Hotel Waldorf Astoria, New York, Mar. 6, 1952.
Manufacturing Chemists Association, semi-annual meeting, Waldorf-Astoria Hotel, New York, Dec. 13; annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va., June 23-24, 1952.
National Sanitary Supply Association, annual meeting and trade show, Conrad Hilton Hotel (formerly the Stevens) Chicago, Mar. 23-26, 1952.
Salesmen's Association American Chemical Industry, Christmas Party, Hotel Astor, New York, Dec. 13.
Society of Cosmetic Chemists, fall meeting, Hotel Biltmore, New York, Dec. 6.
Toilet Goods Association, Scientific Section, Waldorf-Astoria Hotel, Dec. 5. Annual meeting, Waldorf-Astoria Hotel, May 12-14, 1952.

PEA Elects Cantor

David Cantor of Bell Exterminating Co., New York, was elected president of the Professional Exterminators Assn. for the coming year at the group's annual business meeting at the American Museum of Natural History, New York, Nov. 12. Jack L. Huberman of Scientific Exterminating Co., was chosen vice-president, Philip W. Friedman of Sanex Exterminating Co., secretary and William Farrell of Effective Exterminating Co., treasurer.

The board of directors includes Kenneth W. Tompkins of Tompkins Exterminating Co.; Robert G. Bloch of Brooklyn Exterminating Corp.; Melford Oachs, Ozane Co.; Morris Feldman of Columbia Exterminating Co., and Joseph Finneman of Pest Control Corp.

The annual dinner of the association will be held at Nikolaus Restaurant, New York, Dec. 7, at which time Harry Rabin of the New York City Department of Health is to be honored as the group's "Man of the Year".

Kreager to Speak

De Wayne Kreager, executive officer of the Office of Defense Mobilization is scheduled to be the luncheon speaker at the group luncheon of the Chemical Specialties Manufacturers Association at the Mayflower Hotel, Washington, on Tuesday, December 3. CSMA is holding its 38th annual meeting in Washington, Dec.

INDEX TO ADVERTISERS

*For further details see announcement in 1951 SOAP BLUE BOOK

Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.

TALE ENDS

AS this issue slides off the press and winds its way into the hands of a breathless and waiting world, 600 plus members and friends of the Chemical Specialties Manufacturers Assn. are milling around Washington, D. C. in the midst of their 38th annual convention. This outfit meets twice a year, thus proving itself to be composed of a group of hardy souls. For 1952, CSMA will meet in June in Boston and in December will congregate in New York. The 40th annual meeting will see a return to Washington in December, 1953, the city of its founding.

* * *

Out near Logansport, Ind., some crooks made off with a big trailer truck loaded with soap. As might be expected under the circumstances, the newspapers headed the theft as a "clean haul." Some day, some where, something will happen to soap and there will be no corny reference made to a "clean" this or a "clean" that. But, we will probably not live to see this miracle.

* * *

Said a toy manufacturer recently in offering a miniature dish washing outfit, including a package of detergent powder, for sale to little boys as well as girls: "Do you know that 80 to 85% of dishwashing done in American homes after the evening meal is assisted by men? Boys see their daddies doing dishes, so naturally they'll be interested in the dishwashing set, too." Stop! Halt! Desist! What are we trying to do to our coming male generation? Dishwashing sets for boys! Why not let them remain unsuspecting until the shackles of marital bliss actually are forged?

* * *

Lincoln's Gettysburg address contains 266 words, the Ten Commandments 297 words, the Declaration of Independence 300 words,—but the recent OPS order to reduce the price of cabbage contains 26,911 words. For this gem of information, we are indebted to the "New England Homestead. And that, gentle reader, is what we are up against in a nutshell!

* * *

This DDT immunity which some bugs build up gets more and more serious with each passing month. Now, they tell us that the Korean species of body louse is beginning to give DDT the ha-ha! This complicates the fighting doughfoot's problem when it comes to keeping himself deloused, — and the much more serious menace of insect borne epidemic diseases, especially cholera and bubonic plague. Hence, the research quest for suitable synergists takes on a definite emergency character.

* * *

And housefly immunity to DDT likewise is bringing shouts for help from pest control operators all over. At the annual NPCA meeting in Boston recently, this was probably the most discussed subject both in and out of the meeting sessions. Here, too, the answer appears to be the right synergist or synergists if and when such are found.

* * *

Win a big prize! Just answer an easy question! What Texas soaper who threw his weight around Washington last year with all kinds of accusations against other soapers has recently run into a bad snag based on charges of supplying substandard quality soap on government contract? For the best correct answer and one label from a jar of Goo-Goo Peanut Butter we will give three packs best quality bubble gum.

* * *

If advance preparations mean anything, the annual conclave of the American soap industry on January 22-23 at the Waldorf in New York again will break all previous records for attendance. The Assn. of American Soap & Glycerine Producers, more generally and widely known as the Soap Assn. for short, sponsor of this industry get-together, says that everybody, large, small, or medium, will be there. That's why they moved the meeting to the Waldorf,—to make more room for more people.

* * *

Congratulations to Harry Ahles who's been around these many years as Chicago sales emissary for Ungerer and John Powell & Co. and is pretty widely known through the mid-west. He and Mrs. Ahles (Matt) celebrated their 48th wedding anniversary at the Waldorf in N. Y. on Nov. 13. Also present were their daughter, Nedra, and husband, William E. Larsen who flew in from the Coast for the celebration.

* * * * *

General Services Administration, the government agency which makes floor wax "experimentally" at the rate of 30,000 gals. per annum in Washington for government use is reported over the grapevine to have no intention of quitting this pointed competition with private industry. What is even more disturbing is the rumor that GSA has equipment in warehouse in N. Y. and is ready to set up an "experimental" manufacturing unit in that city. If this is true, the boys of GSA can be assured that all hell is going to be let loose in their direction.

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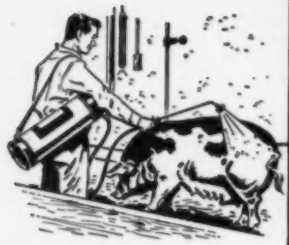

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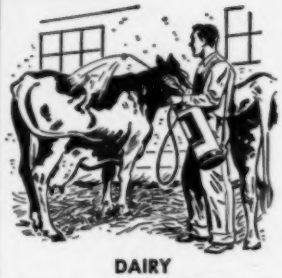

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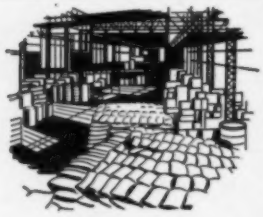

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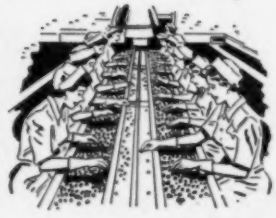

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